JOURNAL
OF
DAIRY SCIENCE

VOLUME 73
JANUARY—DECEMBER 1990

THE AMERICAN DAIRY SCIENCE ASSOCIATION

AUTHOR INDEX OF PAPERS PUBLISHED IN VOLUME 73 OF *JOURNAL OF DAIRY SCIENCE*

A

Aboumahmoud, R., 256
Abrams, S. M., 2404
Adachi, S., 1472, 1684
Adams, M. W., 1023
Adams, G. D., 929
Adkinson, R. W., 639, 2129
Akers, R. M., 2112, 3094
Akin, D. E., 3023
Akuzawa, R., 3385
Albright, J. L., 3158
Al-Dehneh, A., 694
Aleandri, R., 241
Allaire, F. R., 1625, 1631
Allen, J. C., 975
Alley, T. K., 107
Alvarado, M. D., 445
Amaral, D. M., 1244
Amiet, B. A., 153
Amundson, C. H., 1420
Anderson, C. R., 2794
Anderson, R. R., 2327
Andresen, J. W., 2741, 3077
Annexstad, R. J., 2423
Añon, M. C., 2697
Arakawa, T., 3627
Arambel, M. J., 129, 1560, 2413
Arave, C. W., 129
Arora, G., 264, 274
Ash, K. A., 2896
Assimakopoulos, P. A., 3042
Atwal, A. S., 2832
Ax, R. L., 1779, 3118
Ayres, J. W., 881, 887
Azari, A. S., 539

B

Bachman, K. C., 617, 3393, 3512
Bacon, J. A., 398, 470
Bacon, R. K., 1296
Baer, R. J., 1980
Baer, R. K., 2364
Baile, C. A., 1653
Baker, C. C., 1091
Baker, D., 690
Baldwin, R. L., 1051
Banos, G., 2563
Barbano, D., 1724
Barbano, D. M., 561
Barbat, A., 1945
Barbeau, W. E., 2379
Barbosa, R. T., 1872, 1887
Barefoot, S. F., 2269
Barker, R., 2179, 2190, 2952
Barlet, J.-P., 1762
Barnes, M. A., 1603
Barney, D. J., 2143
Barr, H. L., 1625
Barta, O., 2112
Barta, V. D., 2112
Bartholomew, B. P., 1485
Bartlett, P. C., 2794
Barton, E. P., 2516
Basch, J. J., 1671
Basson, R. P., 763, 2437
Bateman, K., 2157
Batra, T. R., 1593
Bean, B., 3112
Beattie, C. W., 2741, 3077
Beauchemin, K. A., 749
Beckers, J. F., 2766
Beckett, D. C., 1648, 2007
Beckmann, J. S., 3306
Bednarski, W., 1450
Beede, D. K., 325, 413, 3178
Bell, B. R., 2547
Bell, M. C., 470
Belo, A. T., 1288
Belyea, R. L., 474, 1023, 1280, 1288, 1864
Benson, G. A., 1525
Bergen, W. G., 3208
Berger, L. L., 2470, 2480, 3544
Bernard, J. K., 3231
Bertics, S. J., 1537
Bhowmik, T., 33, 859
Bick, P. H., 2888
Bingham, E. W., 964
Binns, M., 2007, 2022, 2028
Binns, M. R., 2832
Bitman, J., 98, 948, 1208, 1745
Blackmon, D. M., 808, 1107
Blair, G. T., 2000
Blake, R. W., 792, 2179, 2190, 2952, 3312, 3321
Blauwiekel, R., 3217
Blethen, D. B., 1544
Block, E., 1494, 3266, 3276
Bodana, A. R., 3379
Boddie, R. L., 373, 2774, 2790
Bohner, H. F., 2309
Boichard, D., 1945
Boldman, K. G., 503
Bonaiti, B., 1945
Bondari, K., 1062
Bonomi, F., 41
Borneman, W. S., 3023
Botha, P. M., 3494
Bozak, C. K., 3502
Bradley, R. L., 2309
Bradley, R. L., Jr., 2054
Brand, A., 333, 342, 1343, 1508, 3463
Briend, M., 1945
Bright, S. A., 98, 1745
Brimhall, W., 1312
Brisson, C. J., 1578
Broderick, G. A., 453
Brooks, K. N., 1091
Brown, E. M., 3592
Brown, J. R., 1864
Brown, R. J., 1694
Brown, W. H., 3172
Brusa, M. L., 2355
Bryne, C. R., 2586
Bryson, W. L., 1091
Buchanan-Smith, J. G., 749
Buehring, G. C., 956
Burgess, P. L., 1031, 2916
Burnside, E. B., 181, 2206, 2214
Burton, J. H., 2157, 3248, 3258
Burton, J. L., 2157, 3248, 3258
Burvenich, C., 342, 985
Bushnell, R. B., 648
Butcher, K., 78
Butler, W. R., 2342
Buttazzoni, L. G., 241
Buurman, J., 1343

C

Caldwell, D. W., 66
Call, E. P., 1766
Cameron, M. G., 3544
Cameron, M. R., 3538
Canale, C. J., 135, 1031, 2404, 2417
Canfield, R. W., 2342, 3112
Capuco, A. V., 98, 1745, 3094
Carabaño, M. J., 173
Carmean, B. R., 1304
Caroli, A., 241
Carpenter, J. F., 3627
Carroll, D. J., 2842, 2855
Cartier, P., 1173, 1178
Casper, D. P., 425, 1039, 1269
Cassell, B. G., 198
Cecava, M. J., 2470, 2480
Chalupa, W., 1263
Chalupa, W. V., 2864
Chandler, J. E., 2129
Chapin, L. T., 2444
Chase, L. E., 3132
Chen, C., 3033
Chenault, J. R., 633
Cheng, K. -J., 1232
Cherney, D.J.R., 391
Cherng, Y. S., 63
Chester-Jones, H., 2555
Chew, B. P., 1017
Chilliard, Y., 1173, 1178
Cholette, H., 2278
Chow, J. C., 683
Chow, J. M., 1051
Claesson, C. O., 970
Clark, J. H., 711, 938, 3526, 3538, 3544
Clark, W. A., 2168
Cleale, R. M., 711, 784, 1269, 2907
Clevenger, T. E., 1864
Colca, M. P., 667
Cole, W. J., 2093
Colenbrander, V. F., 1823, 1834, 3158

Collier, R. J., 2093
Colucci, P. E., 2143
Combs, D. K., 784, 1069, 2842, 2855
Congleton, W. R., Jr., 667
Conklin, V. J., 1525
Conley, A. J., 2749
Conrad, H. R., 3291
Contarini, A., 604, 612
Cook, R. M., 2168
Cooley, M. H., 1244
Cooper, M. D., 3132
Coppock, C. E., 1091
Correa, M. T., 1515
Coto, G., 2929
Cousin, M. A., 3366
Cowan, C. M., 3118
Coyle, T., 3118
Creamer, L. K., 1158
Crisman, M. V., 2112
Crowe, C. T., 808, 1107
Crowe, J. H., 3627
Crowe, N. A., 808
Croy, D. S., 1232
Cruywagen, C. W., 1578, 3287
Cue, R. I., 205, 1337, 3586
Cullor, J. S., 648
Cummins, K. A., 3084
Curtis, C. R., 1515, 3132

D

Da, Y., 3583
Dahl, G. E., 2444
Dailey, R. A., 1564
Dalle, M., 1762
Dall'olio, S., 1707
Daly, C., 874
Daniel, L. R., 1017
Darvasi, A., 3306
Davis, C. L., 3563
Davoli, R., 241, 1707
De Antoni, G. L., 2697
Deaver, D. R., 3237
deAvila, D. M., 73
De Boer, G., 1552
Dejmek, P., 45, 590
Dekkers, J.C.M., 1902, 1920
Dellinger, J. D., 648
Delost, P., 1762
Deluyker, H. A., 539
Dempfle, L., 2593
Dentine, M. R., 852, 1537
DePeters, E. J., 1051
Desjardins, M.-L., 299, 1478
De Wit, J. N., 3602
DeYoung, D., 694
Dobson, D. C., 129
Dong, M. C., 843
Donnelly, C. W., 1656
Dowlen, H. H., 66, 2230, 2547
Drackley, J. K., 679, 1244
Drake, T. R., 1851
Drechsler, P. A., 2121
Driver, L. S., 453, 463
Ducrocq, V., 1945
Dudas, C., 694, 703
Dufour, J. J., 2766

E

Eastridge, M. L., 1812
Eggert, R. G., 73, 2157, 2423, 3248, 3258
Ehrlich, J., 78
Eigel, W. N., 2318
Eisenbeisz, W. A., 425, 1039, 1269
Elmore, R. G., 1091
El-Shenawy, M. A., 1429
El Soda, M., 2711
Emanuele, S. M., 3512
Emery, R. S., 2759
Emmons, D. B., 1365, 1648, 1712, 1724, 2007, 2016, 2022, 2028
English, P. B., 2785
Eppard, P. J., 2093
Erasmus, L. J., 3494
Erb, H. N., 1515, 3132, 3463
Erdman, R. A., 1571, 2168, 2907
Erf, D. F., 1130
Ernstrom, C. A., 1365, 1694, 1712, 1724
Escobar, G. J., 2054
Etherington, W., 78
Evans, J. L., 1544
Evenson, D. P., 2364

F

Fahey, Jr., G. C., 149, 3544
Farkye, N. Y., 874
Farrell, Jr., H. M., 3592
Farver, T. B., 648
Fenton, S. E., 1779, 3118
Ferguson, J. D., 2826, 2864
Ferguson, T. H., 763
Fernando, R. L., 1843, 2647
Ferris, A. M., 223
Ferris, T. A., 1327, 1938
Fetrow, J., 78
Fielding, A. S., 1107
Firkins, J. L., 711, 1812
Fitzgerald, G. F., 874
Flipot, P. M., 3165
Fogwell, R. L., 2759
Folman, Y., 1318, 1500, 2807, 2817
Fontecha, J., 1150
Ford, S. P., 2749
Foster, S. J., 1980
Foulley, J. L., 1612
Fox, L. K., 1135
Fox, P. F., 874
Frank, J. F., 621
Freeman, A. E., 503, 2538, 2749
French, N., 1552, 1857
Fries, G. F., 2136
Primer, E. S., 3472
Fujii, Y., 1684
Funk, D. A., 191

G

Gallo, G. F., 3266, 3276
Galton, D. M., 2580
Ganesh, D., 3222
García, T., 1489
Gardner, R. W., 1312
Garver, K., 964
Garverick, H. A., 2350
Gay, L. C., 2480
Gaya, P., 26
Gearhart, M. A., 3132
Gerber, C., 3439
Gianola, D., 1612
Gibson, J. P., 2619, 3248
Gieseke, L., 1864
Gilbert, G. R., 3118
Gill, R., 3340
Gill, R. W., 1662
Gilliland, S. E., 905, 1187
Glenn, B. P., 1081
Goddard, M. G., 1113
Goff, J. P., 406, 1288, 2103, 3195
Gómez, C., 1150
Gomez-Alarcon, R. A., 142, 703
Gonzalez, R. N., 648, 2785
Gonzalez De Llano, D., 1676
Goulet, J., 299, 1478, 3428
Graham, E. F., 91
Graham, J. K., 91
Graham, N. M., 2586
Grant, A. L., 3208
Grant, R. J., 1823, 1834, 3158
Green, H. B., 763, 2437
Greene, B. B., 1225
Greer, R. C., 3297
Griel, Jr., L. C., 3237
Grieve, D. G., 2333, 3222 .
Gringe, E., 2460
Grings, E. E., 73
Grinstead, D. A., 2269
Groeneveld, E., 513, 2221
Gröhn, Y. T., 2355
Grommers, F. J., 1343, 3463
Grovum, W. L., 2143
Gruenbaum, Y., 3306
Grummer, R. R., 463, 852, 1537, 2842, 2855
Grunert, E., 2801
Guilbault, L. A., 2766
Guterbock, W., 78
Gutierrez, M., 1773
Gwazdauskas, F. C., 2965

H

Hagborg, D. W., 1648
Hague, Z., 319
Hahn, M. V., 2179, 2190, 2952
Hamilton, S. A., 2350
Hammond, A. C., 3141
Hammond, E. G., 1450

Han, Y., 690
Hancock, D. D., 1135
Hansen, A. P., 319
Hansen, L. B., 484, 494, 1130, 2555
Hansen, P. J., 3439
Hansen, W. P., 2423
Happe, P., 2460
Harding, F., 2299
Hardy, R.W.F., 1665
Harman, R., 78
Harmon, R. J., 627, 995, 2580, 3104, 3457
Harp, J. A., 2103
Harris, B., Jr., 3512
Harrison, J. H., 3555
Harrison, R. O., 2749
Harwalkar, V. R., 3591
Hatfield, M. L., 852
Hauser, E. R., 2855
Hayashi, K., 579
Hayes, H. H., 3502
Hayes, J. F., 205, 1337, 3414, 3586
Hein, M., 2460
Heinrichs, A. J., 1851, 2417
Henderson, R. A., 223
Henricks, P.A.J., 342
Herbein, J. H., 735
Herer, P. S., 2785
Hernández, P. E., 1489
Herrera-Saldana, R., 142
Herrera-Saldana, R. E., 2386
Herz, Z., 2807, 2817
Hespell, R. B., 3013
Hewitt, S. A., 1439
Heymann, H., 1454
Heyneman, R., 342, 985
Hicks, C. L., 1, 8, 17, 2259
Hidiroglou, M., 804, 2832
Hiemstra, S., 198
Hill, A. R., 2299
Hill, C. G., Jr., 1420
Hill, G. M., 3200
Hillers, J. K., 3555
Hincks, M., 1690
Hirata, Y., 125
Hoblet, K. H., 381
Hoeschele, I., 2503, 2601
Hogan, J. S., 363, 381, 1217, 1756, 2372, 2580, 3126, 3187
Hogue, J. F., 3485
Holman, J. R., 2516
Holmann, F., 2190, 2952
Holmann, F. J., 792
Holmann, R., 2179
Holsinger, V. H., 1671
Holter, J. B., 3502
Hoover, W. H., 2453, 3217
Horne, D. S., 3613
Horst, R. L., 406
Horvath, Z., 3472
Hosono, A., 2702
Hough, G., 604, 612
Houlihan, A. V., 1439
Howard, W. H., 3340
Hsu, J. T., 149
Huber, J. T., 142, 694, 703, 2386, 3208
Hudson, S., 2093
Huffman, L. M., 1439
Hughes, T. L., 2759
Hull, B. L, 1812
Hunt, C. L., 2586
Huston, G. E., 2061
Huston, K., 2516
Hutton, C. T., 1135

I

Iametti, S., 41
Im, S., 1612
Instkeep, E. K., 1564
Ioannides, K. G., 3042
Itoh, T., 1472
Iwamoto, M., 3408

J

Jackson, J. A., 627
Jacquemet, N., 3433
James, R. E., 1525, 2574
Jang, H. D., 900, 2067
Janolino, V. G., 308, 2287
Jasaitis, D. K., 1544
Jasper, D. E., 648
Jaster, E. H., 711, 1843, 2880, 3563
Jenkins, K. J., 804, 2489, 2940
Jenkins, T. C., 2934
Jensen, E. L., 191
Jensen, J., 1938
Jensen, L. A., 1420
Jensen, N. E., 3472
Jensen, R. G., 223
Jeon, G. J., 1938
Jerred, M. J., 2842, 2855
Jesse, B. W., 683
Johnson, D. G., 2168
Johnson, J. C., Jr., 1062, 2896
Johnson, M. E., 1145, 3033
Jones, T. H., 1166
Jonsson, A., 719
Jost, L. K., 2364
Juárez, M., 1150
Juneja, V. K., 351, 995

K

Kaim, M., 2807, 2817
Kakuda, Y., 1690
Kamaly, K. M., 280
Kaneko, T., 291
Kang, Y.-J.,621
Kaproth, M. T., 2364
Karabinus, D. S., 2364
Karmas, R., 584
Kashi, Y., 2525, 3306
Kashiwagi, N., 3575
Katoh, N., 1201
Kawano, S., 3408
Kawas, J. R., 726
Kazmer, G. W., 3112
Keating, J. F., 1239
Keating, K. R., 54
Kehrli, M. E., Jr., 2103, 2538
Kellems, R. O., 2922
Keller, D. S., 549, 1631
Kelley, D. H., 2538
Kemp, K. E., 1239
Kennedy, B. W., 826, 835, 2619
Kennelly, J. J., 1552, 1857, 3146
Kent, B. A., 1560, 2413
Khalaf, S. S., 3172
Khalid, N. M., 2669, 2711, 3068
Khayat, F. A., 1465
Kidd, J. K., 2269
Kilara, A., 1439, 2731
Kim Ha, J., 1988
Kincaid, R. L., 3555
Kindstedt, P. S., 867, 1644
King, K., 694
King, K. J., 3208
King, S. H., 2230
King, V. L., 3208
Kinsella, J. E., 319
Kirk, J. H., 2794
Kitazawa, H., 1472
Klaenhammer, T. R., 2239
Klassen, D. J., 205
Kleyn, D. H., 584
Klingborg, D., 78
Klusmeyer, T. H., 711, 3526, 3538
Kohl, D. M., 1525, 2574
Kosikowski, F. V., 1411
Kovac, M., 513, 2221
Kramer, J.K.G., 2832, 2940
Kremer, W., 1508
Kronfeld, D. S., 1263, 2864
Kronlund, N. C., 648
Kuck, A. L., 494
Kumosinski, T. F., 3592
Kung, L., Jr., 1304
Kuzmanoff, K. M., 2741, 3077
Kwan, L., 2075

L

Lacount, D. W., 1537
Lacroix, C., 1365
Lagerstedt, A., 2922
Lamni-Keefe, C. J., 223
Lamoureux, M., 264
Langlois, B. E., 2259
Lanham, J. K., 1091
Lau, K. Y., 561
Law, B. A., 579
Lawlor, T. J., 191
Lawrence, L. A., 1100
Lebzien, P., 3494
Lednor, A. J., 2826
Lee, A. J., 819, 1593
Lee, B. H., 264, 274
Lefcourt, A. M., 948

Legates, J. E., 1351, 1533
Leipold, H. W., 2516
Leish, Z., 2586
Leitch, H. W., 181
Lemenager, R. P., 391
Lemos, A. M., 1872, 1887
Lenz, R. W., 1779, 3118
Leslie, K. E., 3340
Lewin, H. A., 2647
Lewis, G. S., 66
Lewis, M. J., 2230
Li-Chan, E., 2075
Ligero-Toro, F., 2574
Lin, C. Y., 819, 1593, 2494
Lindsay, R. C., 1988
Linn, J. G., 2423
Lipkin, E., 3306
Lissemore, K., 3340
Liu, T.-T. Y., 2136
Llamas-Lamas, G., 1069
Lodics, T. A., 2685
Lobuis, J.A.C.M., 333, 342, 1508
Longer, D. E., 1296
Lormore, M. J., 135, 3237
Lough, D. S., 325, 413
Lu, C. D., 726
Lubis, D., 3512
Lukes-Wilson, A. J., 1603
Luther, D. G., 357

M

Mabry, J. W., 2657
Mackie, D. A., 1648
Mackie, R. I., 2971
MacLeod, G. K., 2143, 2157
Madalena, F. E., 1872, 1887
Mafu, A. A., 3428
Mahmoud, R., 1694
Mahoney, A. W., 2252
Maleeff, B. E., 1671
Mantzios, A. S., 3042
Mao, I. L., 843, 1255, 1327, 1938
Marmolejo, A., 3172
Marshall, R. T., 1395, 1454
Marth, E. H., 33, 280, 859, 912, 1429, 2669, 2711, 3068, 3351, 3357
Martin, F. G., 1586
Martín, R., 1489
Martin, S. A., 2996
Martinez, E., 604, 612
Martinez, M. L., 819
Martinez-Castro, I., 1676
Martinod, S., 3439
Martz, F. A., 474, 1280, 1288
Marx, G. D., 2555
Matches, A. G., 1280
Matsuishi, M., 3385
Matthews, K. R., 2230, 3457
McAllister, A. J., 1593
McArthur, J. L., 2269
McBride, B. W., 181, 2157, 3248, 3258
McCahon, H. A., 135
McCarthy, R. D., Jr., 3526
McClary, D., 78
McClelland, L. A., 1593
McCoy, G. C., 711, 1843, 3538, 3563
McDowell, L. R., 1100
McGilliard, A. D., 1244
McGilliard, M. L., 445, 1525, 2574, 2965, 3502
McGregor, J. U., 314, 571
McGuffey, R. K., 763, 2437
McKellar, R. C., 2278
McKenna, T., 1779
McLaren, D. G., 2647
McMillan, I., 2143, 2157
McNamara, J. P., 772
McNeill, J., 1690
McQueen, R. E., 2916
Medina, M., 26
Mee, M. O., 1500
Meinert, T. R., 2503
Meissner, H. H., 1578, 3494
Melichercik, J., 2299
Merchen, N. R., 690, 2470, 2480, 3544
Mertens, D. R., 1823, 1834
Michanek, P., 480
Miller, C. N., 445
Miller, G. Y., 2794
Miller, J. K., 398, 470
Miller, M. A., 2093
Miller, R. H., 98, 1734, 1745, 1751
Miller, T. K., 2453, 3217
Miller, W. J., 808, 1107
Milligan, R. A., 2179, 2190, 2952
Milton, K., 2259
Mistry, V. V., 1411, 1980
Misztal, I., 163, 3583
Molnar, J. J., 3084
Monardes, H. G., 1337, 3414, 3586
Monteiro, J.B.N., 1872, 1887
Moore, E. D., 2547
Moore, R. K., 826, 835
Moore, T. L., 1255
Morales, P., 1489
Morisset, M., 1724
Morrison-Rowe, S. J., 2287
Mortimer, R. G., 1773
Moseley, W. M., 2444
Moxley, J. E., 826, 835
Mueller, F. J., 398, 470
Muir, D. D., 3613
Mukai, F., 125
Mukai, T., 1472
Muller, L. D., 135, 1031, 2404, 3237
Mullinix, B. G., 2896
Murakami, D., 3481
Murray, J. D., 2586
Muse, L. A., 808

N

Naito, Y., 3481
Nakai, S., 2075
Nakajima, H., 1472
Nakao, T., 2801
Nancarrow, C. D., 2586
Nave, A., 3306
Ndwiga, C. A., 1571
Neathery, M. W., 808, 1107
Nebel, R. L., 2965
Neitzel, R. R., 1130
Nelson, D. R., 2470, 3526
Nelson, L., 970
Nelson, W. F., 1800
Nestor, Jr., K. E., 3291
Newton, G. R., 3439
Ng-Kwai-Hang, K. F., 3414
Nickerson, S. C., 107, 115, 357, 373, 639, 2580, 2774, 2790, 3449
Nolan, E. J., 1671
Norcross, N. L., 2103
Norman, H. D., 1123
Nowak, P. F., 3084
Nuñez, M., 26
Nytes, A. J., 784

O

Oberg, C. J., 1465
Oellermann, S. O., 2413
Ogden, L. V., 1485
Ohta, Y., 2702
Ohtagaki, S., 125
Okitani, A., 3385
O'Leary, J., 2259
Oliver, S. P., 351, 995, 2230, 2580
Olson, J. D., 1773
Olson, N. F., 1145, 1193, 1420, 3033
Oltenacu, P. A., 2179, 2190, 2826, 2952
Otterby, D. E., 2168, 2423
Owen, J. R., 66, 2547
Owens, W. E., 115, 1225, 2774, 3449
Ozimek, L., 1166

P

Paape, M. J., 1734, 1751
Pagliarini, E., 41
Pakou, A. A., 3042
Palmquist, D. L., 1784
Pankey, J. W., 2121, 2580
Pappas, C. P., 3042
Paquet, D., 1173
Park, Y. W., 3059
Parsons, C., 690
Patel, M. T., 1439, 2731
Patterson, J. A., 391
Patton, C. S., 398
Patton, R. S., 3567
Patton, S., 2061, 3567
Pauletti, M., 601
Paulsson, M., 45, 590
Payne, C. P., 1280
Pearson, L. J., 912
Pearson, R. E., 198, 1603
Peláez, C., 1150

Pennington, J.A.T., 3421
Perez, P. F., 2697
Peri, C., 41
Pessen, H., 3592
Peters, R. R., 1751
Peterson, S. D., 1395, 1454
Petit, H. V., 3165
Phatak, A. P., 1766
Phillippe, R. C., 1232
Pierson, R. A., 2855
Pilcher, S. W., 1644
Pitt, R. E., 1788
Planck-Meyer, C., 683
Plowman, R. D., 3330
Polan, C. E., 445, 735, 2379
Poland, Jr., W. W., 2453
Politis, I., 1494
Polo, C., 1676
Poore, M. H., 2386
Potchoiba, M. J., 726
Powell, R. L., 1123, 3330
Prigge, E. C., 3433
Purcell, D., 129

Q

Quaas, R. L., 3312, 3321

R

Rajagopal, S. N., 881, 894
Ramos, M., 1150, 1676
Ramsey, N., 398, 470
Rao, D. R., 3379
Rash, K., 3651
Rasmussen, M. D., 3472
Rasmussen, R. R., 561
Raw, R. E., 2350
Ray, C. H., 373, 1225, 3449
Reeves, J. B., III., 2394
Reeves, J. J., 73
Reneau, J., 78
Reneau, J. K., 494
Requena, T., 1150
Revell, D. F., 579
Rexroad, Jr., C. E., 66
Rich, C. N., 1187
Richard, M. J., 679
Richardson, D. O., 2547
Richardson, G. H., 1465
Ricker, D. B., 453
Riesterer, B. A., 1145, 3033
Rigby, N. W., 2586
Rippe, J. K., 867
Robinson, P. H., 2916, 2929, 3146
Roche, F., 3050
Rode, L. M., 1232
Rodríguez, E., 1489
Rodriguez-Marin, M. A., 26
Roebel, R. J., 1239
Roffler, R., 2460
Rogers, G. W., 532
Rogers, J. A., 2168
Romagnolo, D., 2379
Rosenberg, M., 2807, 2817
Rouffet, J., 1762
Rounsaville, T. R., 2952
Roy, D., 299, 1478, 3428
Roy, G. L., 1593, 2766
Roy, R., 3428
Rumsey, T. S., 3141
Russell, J. B., 2996
Russell, R. W., 1005
Russo, V., 1707

S

Sabbag, N., 601
Sadik, M., 3208
Sadik, M. S., 694
Sahlu, T., 726
Saidi, B., 1700
Salih, M. A., 887
Salman, M. D., 1773
San Cristobal, M., 1612
Sanders, M. E., 2044
Sandine, W. E., 881, 887, 894
Sanz, B., 1489
Sanz, J., 1676
Saran, A., 661
Sato, R., 3481
Sato, T., 3408
Satter, L. D., 1800
Savello, P., 256
Savoie, L., 3428
Scarlett, J. M., 1515
Schaeffer, L. R., 826, 835
Schingoethe, D. J., 425, 1039, 1269
Schneider, J. C., 241, 1327
Schneider, P. L., 1263
Schockey, W. L., 2372
Schoenberger, P. S., 1756, 3126
Schook, L. B., 2647
Schukken, Y. H., 333, 342, 1343, 1508, 3463
Schultz, L. H., 463
Schutz, M. M., 484, 494
Schwartz, T. R., 2444
Scoby, R. K., 1500, 1766
Sears, P. M., 2785
See, M. T., 2657
Seitz, E. W., 3637, 3664
Seymour, W. M., 735
Shanahan, C. M., 2586
Sharma, A. K., 1586
Sharma, B. K., 1571, 2907
Shaver, R. D., 784, 1269, 2907
Sheffield, L. G., 2087
Shieh, J. J., 1671
Shindo, N., 3481
Shook, G. E., 784, 1902, 1920, 2563
Short, T. H., 2547, 3312, 3321
Shultz, J. W., 2044
Shumway, R. H., 539
Shupe, M. G., 1312
Shuster, D. E., 627, 3104
Siegelthaler, B., 3439
Silvia, W. J., 627
Sing, W. D., 2239
Singh, H., 1158
Sisler, D. G., 792
Sklan, D., 1263, 2864
Slider, S. D., 3217
Slotnik, M. J., 3502
Smit, J.A.H., 1508
Smith, B. A., 3457
Smith, B. S., 2785
Smith, C., 1113, 2619
Smith, D. E., 3402
Smith, H. W., 2888
Smith, K. L., 363, 381, 1217, 1756, 2372, 3126, 3187
Smith, M. F., 2350
Smith, R. D., 1515, 3132
Smith, S. P., 2494
Smith, T. R., 772
Sniffen, C. J., 792, 2342, 3132
Snow, J. A., 1537
Soback, S., 661
Soderholm, C. G., 2423
Soller, M., 2525, 2628, 3306
Spain, J. N., 445
Spangler, P. L., 1420
Speck, P. A., 2586
Spencer, S. B., 1000
Spicer, L. J., 929
Sprecher, D. J., 2965
Stabel, J. R., 3195
Stanisiewski, E. P., 2759
Stanton, T. L., 2190
Staples, C. R., 938
Stauffacher, R. H., 1537
Stear, M. J., 2538
Stechina, D., 601
Steenson, L. R., 2685
Steiwagen, K., 2333
Stermer, R. A., 1091
Stern, M. D., 2929
Steuernagel, G. R., 484, 494
Stevenson, J. S., 1500, 1766
Stiles, M. E., 1166
Stoel, J., 198
Strange, E. D., 2720
Strobel, H. J., 2996
Studer, E., 78
Sukhija, P. S., 1784
Sumner, S. S., 3050
Suzuki, H., 291
Svennersten, K., 970
Swaisgood, H. E., 308, 900, 2067, 2287, 3591
Swanson, E. W., 398
Swartz, L. A., 1851
Swingle, R. S., 3172
Szijarto, L. F., 2299

T

Takayama, K., 280
Tamura, R. N., 2888
Tanaka, T. S., 1017
Taylor, S. L., 3050
Taylor, V. N., 2896

Teepker, G., 549
Tempelman, R. J., 2206, 2214
Teodoro, R. L., 1872, 1887
Tess, M. W., 3297
Thatcher, W. W., 938, 1586, 3439
Thayne, W. V., 2453
Thompson, M. P., 1671, 2720
Thurston, J. R., 2103
Tirado, V., 2129
Titgemeyer, E., 690
Tjoelker, L. W., 1017
Toba, T., 1472, 1684
Tobias, J., 3657
Todhunter, D. A., 363, 1217, 1756, 2372, 3126, 3187
Tomkins, T., 3563
Torabi, M., 142
Torre, P. M., 2230
Toupin, C., 1478
Tournaire, C., 1762
Townrow, C. A., 2586
Towns, R., 2168
Townsend, P. W., 792
Toyoda, S., 1472
Travis, P. A., 1851
Tricomi, B., 3033
Trinidad, P., 107, 357, 639
Troyer, D. L., 2516
Tsai, G.-J., 3366
Tsuji, S., 125
Tucker, H. A., 2444
Tucker, W. B., 929, 3485
Tulloch, D., 1712, 1724
Tumbleson, M. E., 1864
Tung, R. S., 1304
Tunick, M. H., 1671
Turk, R. S., 2000
Turner, J. D., 1494
Turner, K. E., 1296

U

Urbach, G., 3639
Urban, W. E., Jr., 3502
Usmani, R. H., 1554
Ustunol, Z., 1, 8, 17

V

Van Der Beek, F., 711
Van De Geer, D., 3463
van der Geer, D., 1343
Vandersall, J. H., 1571
Van Hekken, D. L., 2318, 2720
Van Horn, H. H., 2168, 3512
Van Miert, A.S.J.P.A.M., 333, 342, 1508
VanRaden, P. M., 191, 1956, 3336
Van Soest, P. J., 792
Van Vleck, L. D., 173, 3312, 3321
Van Vliet, T., 45
Varga, G. A., 135, 1031, 2404, 2417
Varnadoe, J. L., 808, 1107
Veenhuizen, J. J., 1244
Veira, D. M., 2929
Venier, A.,601
Ventorp, M., 480
Vercauteren, R., 985
Verheijden, J.H.M., 333, 342, 1508
Verret, P., 1365
Verrinder Gibbins, A. M., 2619
Veseley, J. A., 1593
Vicini, J. L., 2093
Villa-Godoy, A., 2759
Voirol, M.-J., 3439
Volz, C., 1000

W

Wada, Y., 3575
Wade, K. M., 173
Waldo, D. R., 3141
Walker, D. K., 905
Walker, D. W., 1296
Wallentine, M. V., 2922
Walstra, P., 1965
Walters, J. L., 129, 2413
Wanderley, R., 694
Wang, C., 3178
Ward, K. A., 2586
Ward, N. E., 2880
Warnick, A. C., 1100
Warren, W. P., 1280
Warthesen, J. J., 1700
Watanabe, T., 1684
Watanabe, Y., 291
Watkins, A. S., 2000
Watts, J. L., 373, 1225, 2774
Wauthy, J. M., 1593
Wautlet, R. G., 2555
Weaver, L. D., 78, 539
Weber, D. J., 1312
Wecker, W. E., 539
Weigel, K. A., 2538
Weiss, M. F., 474, 1288
Weiss, W. P., 153, 381, 1812, 2372, 3187
Weller, J. I., 1318, 2525
Wenzel, J. M., 3357
West, C. P., 1296
West, J. W., 1062, 2896, 3200
Weström, B., 480
Wheaton, J. E., 2423
White, B. A., 2971
White, C. H., 54, 314, 571
White, T. C., 2093
Whitehead, T. R., 3013
Whiting, F. M., 3172
Whitsel, T. J., 135
Whittier, W. D., 2965
Wiesen, B., 3555
Wiggans, G. R., 1956, 3330, 3336
Wilcox, C. J., 325, 413, 617, 1586, 3393
Wildman, E. E., 2121
Wilks, D. L., 1091
Wilkinson, N. S., 1100
Willett, L. B., 2136
Williams, J. E., 1864
Williams, S. N., 1100
Williamson, N., 78
Wilson, B. W., 2586
Winkler, M., 661
Winter, K. A., 1593
Wohlt, J. E., 1544
Wood, D. L., 98, 948, 1208, 1745
Wood, R. W., 2453
Wynn, P. C., 2586

X

Xiang, Z. Y., 3449

Y

Yokoi, H., 1684
Yokoyama, K., 3385
Yoshida, S., 2292
Young, C. W., 2555
Young, J. W., 679, 1005, 1244, 2749
Young, M. D., 1751
Yousef, A. E., 3351

Z

Zahar, M., 3402
Zall, R. R., 63
Zhang, D., 2252
Zhang, X. B., 2702
Ziemer, C. J., 2417
Zinn, S. A., 2444
Ziv, G., 661, 1734
Zwickl, C. M., 2888

SUBJECT INDEX OF PAPERS PUBLISHED IN VOLUME 73 OF *JOURNAL OF DAIRY SCIENCE*

A

abomasal curd formation, calves, milk replacer, 1578
abomasal infusion, casein, amino acids, 735
accelerated ripening, proteinases of *Brevibacterium linens*, Cheddar cheese, 579
  mammary gland, lactation, 964
acid-base status, calcium, protein, 3178
  minerals, dietary cation-anion balance, 3485
acid phosphatase, casein, dephosphorylation, 2720
mammary gland, lactation, 964
acidification, ultrafiltration lowfat Cheddar cheese, diafiltration, 314
acidified milk replacer, sweet milk replacer, dairy calves, 3563
activator-inhibitor balance, spontaneous lipolysis, lipoprotein lipase, 1178
acylglycerol acylhydrolase, lactic acid bacteria, lipase, 280
adipose tissue, hormone-sensitive lipase, genetic merit, 772
adrenal cortex, glucocorticoids, dystocia, 2801
aerosols, air contamination, dairy processing, 621
affinity chromatography, ovine, casein, 1707
age-season, milk, Brazil, 819
agglutination, bulk starter, homogenization, 2259 air contamination, dairy processing, aerosols, 621
Akaike's information criterion, model selection, best linear unbiased predictor, 3575
aldosterone, cattle, sodium, 1762
alfalfa, alkali, orchardgrass, 2404
  drying agent, in situ digestibility, 2417
  silage conditions, milk yield, 1800
alfalfa silage, resistant proteins, expeller soybean meal, 453
alkali, orchardgrass, alfalfa, 2404
alkaline phosphatase, butter, reactivation, 584
α-dicarbonyls, fermented dairy foods, *Lactobacillus* mutants, 1450
α-lactalbumin, β-lactoglobulin A, β-lactoglobulin B, 2292
  monoclonal antibodies, bovine, 3077
α-tocopherol, milk composition, milk fat, 2832
  retinol, zinc, 3195
alternative diets, Venezuela, dual purpose cattle, 792
aluminum, phosphorus, dairy calves, 808
American Association of Bovine Practitioners, reproductive performance, reproduction indices, 78
amino acids, abomasal infusion, casein, 735
  digestibility, small intestine, 690
  protein source, lactating cow, 3200
aminopeptidase, properties, *Lactobacillus helveticus*, 2278
ammoniated wheat straw, lactating, chopped alfalfa, 3172
ammonium salts of volatile fatty acids, milk production, dairy cows, 2168
amylase, silage, cellulase, 1788
analysis, branched-chain fatty acids, volatile free fatty acids, 1988
  taurine, heat stability, 1700
androgenization, testosterone, estrus detection, 1773
androgenized cattle, estrus detection, rump-mounted devices, 2965
animal and vegetable fat, hemicellulose digestion, fungal extract, 1812
animal drugs, food safety, food animals, 1653
animal model, genetic evaluation, Ecuador, 3330
  later herd, 3336
  updating, 1956
  large data files, pseudo-absorption strategy, 1945
  restricted maximum likelihood, relationship matrix, 3583
  variance components, sparse matrices, 163
antibiotic susceptibility, heifers, staphylococci, 357
antibiotic therapy, mastitis, ceftiofur, 3449
antibiotics, neutrophils, phagocytosis, 1734
  Staphylococcus aureus, penicillin plus novobiocin, 115
  streptococci, bovine mammary glands, 1225
antibody formation, somatotropin, cow, 2888
antimutagenic activity, *Streptococcus thermophilus*, *Lactobacillus bulgaricus*, 3379
antimutagenicity, mutagenic pyrolyzates, lactic acid bacteria, 2702
API ZYM method, enzymes, *Lactobacillus casei*, 264
artificial insemination, nucleus breeding schemes, economic evaluation, 1920
  nonreturn rates, semen placement, 1779
artificial insemination firms, economic evaluation, breeding programs, 1902
artisanal Majorero cheese, cheese characteristics, goat cheese, 1150
Aspergillus oryzae, nutrient digestibility, ruminal fermentation, 2413
  rumen, digestibility, 703
Aspergillus oryzae fermentation extract, fungal additive, lactation, 2922
availability, dairy, minerals, 1288

B

bacterial counts, teat swabs, newspaper bedding, 1756
bacterial genetics, ruminal bacteria, xylan, 3013
bacterial nitrogen flow, diaminopimelic acid, rumen bacteria, 2929
bacterial protein, diaminopimelic acid, protein degradability, 694
bacterial genetics, ruminal bacteria, xylan, 3013
bacteriophage, Italian cheese, bulk starter medium, 881
  Lactococcus, phage carrier, 2685
  lysogeny, *Lactobacillus* spp., 2269
barley, recombinant bovine somatotropin, corn, 1269
barley-vetch silage, microbial inoculation, cellulase enzyme treatment, 1304
best linear unbiased predictor, Akaike's information criterion, model selection, 3575
  genetic gain, simulation, 2657
β-carotene, leukocytes, lymphocyte, 1017
β-hydroxybutyrate, 1,3-butanediol, liver, 679
β-lactoglobulin, rheometry, heat-induced gels, 45
β-lactoglobulin A, β-lactoglobulin B, α- lactalbumin, 2292
β-lactoglobulin B, α-lactalbumin, β-lactoglobulin A, 2292
β-lactoglobulin denaturation, immobilized *trans*-retinal, chromatography, 2067
bifidobacteria, growth, enzyme profiles, 299
Bifidobacterium, production inhibition, milk, 1478
biomass, dairy waste solids, by-product feeds, 1864

biotechnology, food safety, technology, 1665
blastogenesis inhibition, immunosuppression, mastitis, 2112
blocked amino terminus, radiolabeled active site, sulfhydryl oxidase, 2287
blood polymorphonuclear leukocyte functions, chemotaxis, *Escherichia coli* mastitis, 342
blue cheese, gas chromatography-mass spectrometry, volatile components, 1676
body composition, Holstein steers, urea space, 3141
body condition, estrus, energy balance, 2759
production, body tissue balance, 3502
body condition score, reproductive disease, culling, 3132
body tissue balance, body condition, production, 3502
body weight, calves, fat supplement, 1843
reproduction, calving age, 835
bone properties, deficiency, phosphorus, 1100
bovine, α-lactalbumin, monoclonal antibodies, 3077
bovine, *Staphylococcus aureus*, mastitis, 3457
bovine lactoferrin, bovine serum albumin, enzyme immunoassay, 3104
bovine lymphocyte antigen alleles, health, production, 2538
bovine mammary glands, antibiotic, streptococci, 1225
bovine mastitis, chlorous acid-chlorine dioxide, postmilking teat dip, 2121
bovine serum albumin, enzyme immunoassay, bovine lactoferrin, 3104
bovine somatotropin, heat stress, lactation, 2896
lactation, dairy cows, 1062
nutritional status, liver function, 3276
social impacts, innovation, 3084
branched-chain fatty acids, volatile free fatty acids, analysis, 1988
Brazil, breeding strategies, Zebu crosses, 1887
milk, age-season, 819
breed, lactoferrin, colostrum, 125
breeding programs, artificial insemination firms, economic evaluation, 1902
breeding schemes, stochastic model, multiple ovulation and embryo transfer, 1938
breeding strategies, Zebu crosses, Brazil, 1887
Brown Swiss, calf mortality, calf livability, 1130
bulk starter, homogenization, agglutination, 2259
bulk starter medium, bacteriophage, Italian cheese, 881
bulk starter substrates, ultrafiltered milk retentates, starter cultures, 1166
bull-dams, dam age, genetic evaluation, 1327
bull semen quality, light microscopy, flow cytometry, 2364
buserelin, gonadotropin-releasing hormone, fertirelin acetate, 633
butter, reactivation, alkaline phosphatase, 584
by-product feeds, biomass, dairy waste solids, 1864

C

cafeteria-type experiments, palatability experiments, pairwise feeding trials, 1239
calcium, *Endothia parasitica*, cheese yield, 17
postpartum cow, osteocalcin, 3481
protein, acid-base status, 3178
calcium lactate, crystals, Cheddar cheese, 3033
Cheddar cheese, nonstarter bacteria, 1145
calcium salts of fatty acids, lactation, fat supplementation, 3200
neutral detergent fiber, digestibility, 1031
calcium soap, rumen, fatty acids, 1784
calcium solubility, forage, oxalate solubility, 474
calf health and growth, weaning systems, coccidiosis, 1851
calf livability, Brown Swiss, calf mortality, 1130
calf mortality, calf livability, Brown Swiss, 1130
calf performance, milk replacer, iodine, 804
calf rennet, thermal inactivation, differential analysis, 2000
calf tissues, corn oil, fish oil, 2940
calves, colostrum, intestinal absorption, 480
fat supplement, body weight, 1843
hypomagnesemia, magnesium, 470
iodine, lipids, 2489
milk replacer, abomasal curd formation, 1578
calving age, body weight, reproduction, 835
calving ease, Canadian Holsteins, repeatability, 205
genetic correlation, type traits, 3586
calving interval, days to first breeding, days open, 1318
heterogeneous variance, milk yield, 3321
Canadian Holsteins, repeatability, calving ease, 205
canonical transformation, multitrait analysis, common principal components, 2494
casein, affinity chromatography, ovine, 1707
amino acids, abomasal infusion, 735
dephosphorylation, acid phosphatase, 2720
dietary fat, ruminally protected amino acids, 1051
differential scanning calorimetry, thermal denaturation of whey proteins, 590
small angle x-ray scattering, protein structure, 3592
casein micelle structure, stability, heat coagulation, 1965
casein micelles, thermal denaturation, disulfide bond formation, 900
cattle, fat supplement, fat acceptability, 852
sodium, aldosterone, 1762
cattle sales, herd life, profitability, 667
ceftiofur, antibiotic therapy, mastitis, 3449
cell defenses, infection, mastitis, 1751
cell number, semen, deoxyribonucleic acid, 3118
cellulase, amylase, silage, 1788
cellulase enzyme treatment, barley-vetch silage, microbial inoculation, 1304
centrifugation speed, freezing, ruminal bacteria, 149
Cheddar cheese, accelerated ripening, proteinases of *Brevibacterium linens*, 579
calcium lactate, crystals, 3033
condensed milk, fat globules, 1980
lactic acid bacteria, lactobacilli, 1395
nonstarter bacteria, calcium lactate, 1145
peptidase, *Lactobacillus casei* sp., 274
quality, iron fortification, 2252
starter proteinases, proteolysis, 874
Cheddar cheese yield, pasteurization, fat and nitrogen recoveries, 561
cheese and milk quality, microfiltration, separation and sterilization, 1411
cheese characteristics, goat cheese, artisanal Majorero cheese, 1150
cheese, curd firmness, computerized meter, 1648
lactobacilli, enzymes, 2669
milk coagulation rennet assay, whey, 1158
milk-clotting enzymes, yield, 2028
proteinase, *Lactococcus lactis*, 3385
rheology, viscosity, 1671
yield, enzymes, 8
yogurt, enzyme-linked immunosorbent assay for molds, 3366

cheese ripening, esterases, *Lactobacillus*, 2711
lactobacilli, proteolysis, 3068
Micrococcus, *Pediococcus*, 859
Micrococcus species, esterases, 33
peptidase, lactobacilli, 1454
cheese, ultrafiltration, Gouda, 1420
cheese whey, isolation, immunoglobulins, 2075
cheese yield, calcium, *Endothia parasitica*, 17
coagulation, instrument, 1
milk protein polymorphisms, milk components, 241
predictive formulas, milk composition, 1365
proteolysis, milk-clotting enzymes, 2007, 2016
chemotaxis, *Escherichia coli* mastitis, blood polymorphonuclear leukocyte functions, 342
chewing, rate of passage, fiber digestion, 749
chewing activity, forage particle size, rumen cannulation, 3158
chilled drinking water, stress hormones, lactating cows, 1091
chlorhexidine, intramammary infection, postmilking teat dip, 2230
chlorous acid-chlorine dioxide, postmilking teat dip, bovine mastitis, 2121
cholesterol, *Lactobacillus acidophilus*, dietary adjunct, 905
lipids in milk, 223
chop length, microbial inoculant, silage, 3165
chopped alfalfa, ammoniated wheat straw, lactating, 3172
chromatography, β-lactoglobulin denaturation, immobilized *trans*-retinal, 2067
chromium, duodenal cannula, cobalt, 3146
chromosomes, gender, spermatozoa, 2129
citrate-positive *Lactococcus lactis* ssp. *lactis*, 3022
diacetyl-resistant mutant, diacetyl production, 291
clinical mastitis, coliform bacteria, environmental streptococci, 648
cloning, phage resistance, *Lactococcus*, 2044
Clostridium tyrobutyricum, enumeration, silage, 719
coagulation, immunoglobulin G absorption, colostrum, 3287
instrument, cheese yield, 1
cobalt, chromium, duodenal cannula, 3146
coccidiosis, calf health and growth, weaning systems, 1851
coliform bacteria, environmental streptococci, clinical mastitis, 648
intramammary challenge, mammary gland involution, 1217
colostrum, breed, lactoferrin, 125
coagulation, immunoglobulin G absorption, 3287
intestinal absorption, calves, 480
common principal components, canonical transformation, multitrait analysis, 2494
composition, cultured dairy foods, flavor, 3651, 3657
lactation, pregnancy, 1586
thermal properties, whey protein, 1439
computerized meter, cheese, curd firmness, 1648
conception, somatotropin, growth, 73
condensed milk, fat globules, Cheddar cheese, 1980
conformation, heritability, dominance genetic variation, 2214
Holsteins, somatic cell count, 1337
contaminated surfaces, *Listeria monocytogenes*, sanitizing agents, 3428
control, endotoxin, prostaglandin, 627
cooling, milk fat, lipolysis, 617
cooling systems, transport, milk sampling, 2299
corn, barley, recombinant bovine somatotropin, 1269
corn oil, fish oil, calf tissues, 2940
corn silage, dairy heifers, microbial inoculant, 711
neutralizing agents, sodium bicarbonate, 1571
corpus luteum, nordihydroguaiaretic acid, prostaglandin $F_{2\alpha}$, 2350
Corynebacterium bovis, mammary secretions, dry period, 351
cottage cheese, gluconic acid, *Listeria monocytogenes*, 1429
yogurt, spoilage organisms, 887
covalent affinity chromatography, immunoglobulin, sulfhydryl oxidase, 308
covariance components, restricted maximum likelihood, derivative free, 2221
cow, antibody formation, somatotropin, 2888
cow index, milk, somatotropin, 784
cows, fatty acids, phospholipids, 1208
plasma lipids, rhythms, 948
rapeseed screenings, milk fat composition, 3555
crescents of cytoplasm, diurnal variation, milk fat globules, 2061
crosslinking, transglutaminase, whey protein, 256
cryopreservation, protein stabilization, protein-solute interactions, 3627
crystals, Cheddar cheese, calcium lactate, 3033
culling, body condition score, reproductive disease, 3132
culture, milk, mammary epithelium, 956
cultured dairy foods, flavor, composition, 3651
curd firmness, computerized meter, cheese, 1648

D

daily milk yield, time series analysis, modeling, 539
dairy, minerals, availability, 1288
dairy calves, acidified milk replacer, sweet milk replacer, 3563
aluminum, phosphorus, 808
selenium, lead, 1107
dairy cattle, dietary fat, forage, 2842
hard fats, production, 2864
somatotropin, ruminally inert fat, 1263
dairy cattle improvement, major genes, gene transfer, 2601
dairy cattle traits, genetic defects, linkage, 2503
dairy cows, ammonium salts of volatile fatty acids, milk production, 2168
bovine somatotropin, lactation, 1062
feeding frequency, somatotropin, 1552
fiber, forage, 1069
glucose, propionate, 1244
milk iodine, meat iodine, 398
high moisture feeds, rumen water efflux, 2916
polychlorinated biphenyls, residues, 2136
dairy foods, feed, flavor, 3639
flavor, compositional elements, 3657
meat, flavor, 3637
listeriosis, foodborne illness, 912
milk protein, stability, 3591
dairy heifers, microbial inoculant, corn silage, 711
Dairy Herd Improvement, labor, employees, 2574
dairy herd production model, milk component yields, economic weights, 1631
dairy management, mastitis control, somatic cell count, 1135
dairy processing, aerosols, air contamination, 621
dairy records, financial records, management, 1525

dairy waste solids, by-product feeds, biomass, 1864
dam age, genetic evaluation, bull-dams, 1327
days open, calving interval, days to first breeding, 1318
days to first breeding, days open, calving interval, 1318
decontamination, krefalograviera, radiocesium, 3042
deficiency, phosphorus, bone properties, 1100
degradable carbohydrates, degradable crude protein, nonstructural carbohydrates, 1039
degradable crude protein, nonstructural carbohydrates, degradable carbohydrates, 1039
degradation, rumen fungi, fiber, 3023
degradation rate, protein degradability, electrophoresis, 2379
delipidated milk protein, external closed inlet device analyzer, methyl ketone binding affinity, 319
denaturation kinetics, functional properties, industrial whey protein concentrates, 3602
deoxyribonucleic acid, cell number, semen, 3118
deoxyribonucleic acid fingerprints, minisatellites, parentage identification, 3306
dephosphorylation, acid phosphatase, casein, 2720
derivative free, covariance components, restricted maximum likelihood, 2221
diacetyl production, citrate-positive *Lactococcus lactis* ssp. *lactis* 3022, 291
diacetyl-resistant mutant, diacetyl production, citrate-positive *Lactococcus lactis* ssp. *lactis* 3022, 291
diafiltration, acidification, ultrafiltration lowfat Cheddar cheese, 314
diaminopimelic acid, protein degradability, bacterial protein, 694
  rumen bacteria, bacterial nitrogen flow, 2929
dietary adjunct, cholesterol, *Lactobacillus acidophilus*, 905
dietary cation-anion balance, acid-base status, minerals, 3485
dietary fat, forage, dairy cattle, 2842
  progesterone, reproductive performance, 2855
  ruminally protected amino acids, casein, 1051
    milk yield, 135
  undegradable intake protein, somatotropin, 3237
differential analysis, calf rennet, thermal inactivation, 2000
differential scanning calorimetry, thermal denaturation of whey proteins, casein, 590
digesta kinetics, sheep and cattle, intake, 2143
digestibility, *Aspergillus oryzae*, rumen, 703
  calcium salts of fatty acids, neutral detergent fiber, 1031
  milk yield, yeast culture, 1560
  mobile bag technique, undegraded dietary protein, 3494
  small intestine, amino acids, 690
digestion, in situ bag, rumen bag, 391
direct-cut forage, wilted forage, nitrogen, 1081
disulfide bond formation, casein micelles, thermal denaturation, 900
diurnal variation, milk fat globules, crescents of cytoplasm, 2061
dominance genetic variation, conformation, heritability, 2214
  production, heritability, 2206
dose response, postpartum dairy cows, somatotropin, 2907
dried whey, soybeans, nonstructural carbohydrates, 425
dry cow secretion, lactoferrin, Gram-negative bacteria, 363
dry matter intake, estimation, lactation, 1255
dry period, *Corynebacterium bovis*, mammary secretions, 351
drying agent, in situ digestibility, alfalfa, 2417
dual purpose cattle, alternative diets, Venezuela, 792
  tropical dairying, net margin, 2190
Dulce de Leche, flow properties, rheology, 601
  sandiness, lactose microcrystals, 612
    sensory evaluation, 604
duodenal cannula, cobalt, chromium, 3146
dystocia, adrenal cortex, glucocorticoids, 2801
  retained placenta, edema, 2555

E

ecological analysis, logistic-normal regression, postpartum disorders, 1515
economic evaluation, artificial insemination, nucleus breeding schemes, 1920
  breeding programs, artificial insemination firms, 1902
economics, food, food safety, 1662
  management practice, mastitis, 3340
  mastitis, model, 2794
  pregnancy diagnosis, progesterone, 2826
economic weights, dairy herd production model, milk component yields, 1631
Ecuador, animal model, genetic evaluation, 3330
edema, dystocia, retained placenta, 2555
editor's report, *Journal of Dairy Science*, 555
efficacy, teat dip, protocols, 2580
efficiency, metabolizable energy, genetic parameters, 3297
  nitrogen utilization, energy metabolism, 1023
  selection, feed utilization, 1533
    milking frequency, 1603
electron microscopy, lysosomes, mammary tissue, 2318
electrophoresis, degradation rate, protein degradability, 2379
employees, Dairy Herd Improvement, labor, 2574
endocrine responses, fetal effects, milk production, 2766
Endothia parasitica, cheese yield, calcium, 17
endotoxin, *Escherichia coli*, growth inhibition, 1508
  prostaglandin, control, 627
energy, reproduction, protein, 2342
energy balance, body condition, estrus, 2759
  lactation, estrus, 938
  milk production, reproductive status, 2749
  ovarian activity, insulin-like growth factor-I, 929
energy level, feeding frequency, ruminal bacteria, 2480
  steers, 2470
energy metabolism, efficiency, nitrogen utilization, 1023
enumeration, silage, *Clostridium tyrobutyricum*, 719
environmental streptococci, clinical mastitis, coliform bacteria, 648
enzymatic assay, yogurt, *Streptococcus thermophilus*, 2697
enzyme immunoassay, bovine lactoferrin, bovine serum albumin, 3104
enzyme-induced flavor, flavor, microbial-induced flavor, 3664
enzyme-linked immunosorbent assay, whey proteins, milk adulteration, 1489
enzyme-linked immunosorbent assay for molds, cheese, yogurt, 3366
enzyme profiles, bifidobacteria, growth, 299
enzymes, cheese, lactobacilli, 2669
  yield, 8
  Lactobacillus casei, API ZYM method, 264

epidemiology, somatic cell count, mastitis, 3463
population dynamics, 1343
epidermal growth factor, mammary gland, salivary gland, 2087
Escherichia coli, growth inhibition, endotoxin, 1508
mastitis, milk losses, 333
Escherichia coli mastitis, blood polymorphonuclear leukocyte functions, chemotaxis, 342
neutrophil leukocytes, respiratory burst, 985
esterases, cheese ripening, *Micrococcus* species, 33
Lactobacillus, cheese ripening, 2711
estimation, lactation, dry matter intake, 1255
estrogen, fatty liver, lipotropic response, 1537
estrous cycles, synchronization, progesterone, 2807
estrus, energy balance, body condition, 2759
estrus detection, androgenization, testosterone, 1773
rump-mounted devices, androgenized cattle, 2965
ethanol stability, heat stability, milk protein, 3613
expeller soybean meal, alfalfa silage, resistant proteins, 453
experimental design, milk-clotting enzymes, proteolysis, 2022
external closed inlet device analyzer, methyl ketone binding affinity, delipidated milk protein, 319
extraction, high performance liquid chromatography, vitamin A, 3402

F

fat, ruminal digestion, lecithin, 2934
fat acceptability, cattle, fat supplement, 852
fat adulteration, near infrared, spectroscopy, 3408
fat and nitrogen recoveries, Cheddar cheese yield, pasteurization, 561
fat globules, Cheddar cheese, condensed milk, 1980
fat supplement, body weight, calves, 1843
calcium salts of fatty acids, lactation, 3200
fat acceptability, cattle, 852
fatty acids, calcium soap, rumen, 1784
phospholipids, cows, 1208
fatty liver, lipotropic response, estrogen, 1537
feed, flavor, dairy foods, 3639
feed additives, lasalocid, ionophores, 153
feed intake, mammary blood flow, thermal stress, 325
milk production, milk recording data, 826
feed utilization, efficiency, selection, 1533
feeding frequency, milk yield, ruminal fermentation, 1857
ruminal bacteria, energy level, 2480
somatotropin, dairy cow, 1552
steers, energy level, 2470
feedstuffs, protein fractions, protein solubility, 1544
fermented dairy foods, *Lactobacillus mutants*, α-dicarbonyls, 1450
fertility, filtration, spermatozoa, 91
fertirelin acetate, buserelin, gonadotropin-releasing hormone, 633
fetal effects, milk production, endocrine responses, 2766
fiber, degradation, rumen fungi, 3023
forage, dairy cows, 1069
fiber digestibility, soybeans, roasted soybeans, 3231
fiber digestion, chewing, rate of passage, 749
nitrogen metabolism, toxin biotransformation, 2971
filtration, spermatozoa, fertility, 91
financial records, management, dairy records, 1525
fish meal, milk composition, rumen undegradable protein, 3217
protein source, milk composition, 445
fish oil, calf tissues, corn oil, 2940
flavor, composition, cultured dairy foods, 3651, 3657
dairy foods, feed, 3639
meat, 3637
microbial-induced flavor, enzyme-induced flavor, 3664
flow cytometry, bull semen quality, light microscopy, 2364
flow properties, rheology, Dulce de Leche, 601
food, food safety, economics, 1662
food animals, animal drugs, food safety, 1653
food safety, food animals, animal drugs, 1653
economics, food, 1662
technology, biotechnology, 1665
food research, products, publication trends, 1193
foodborne illness, dairy foods, listeriosis, 912
foodborne pathogens, *Listeria*, *Yersinia*, 1656
forage particle size, rumen cannulation, chewing activity, 3158
forage, dairy cattle, dietary fat, 2842
fiber, 1069
oxalate solubility, calcium solubility, 474
pyrolysis gas chromatography, pyrolysis, 2394
free fatty acids, lipolysis, raw milk, 2054
free oil, oiling off, Mozzarella, 867
freezing, ruminal bacteria, centrifugation speed, 149
frequency of feeding, ruminal fermentation, physical form, 3538
functional properties, industrial whey protein concentrates, denaturation kinetics, 3602
functionality, Mozzarella, quality at end use, 1644
physicochemical properties, whey protein concentrates, 2731
fungal additive, lactation, *Aspergillus oryzae* fermentation extract, 2922
fungal extract, animal and vegetable fat, hemicellulose digestion, 1812

G

galactopoiesis, health, somatotropin, 2093
gas chromatography-mass spectrometry, volatile components, blue cheese, 1676
gender, spermatozoa, chromosomes, 2129
gene transfer, dairy cattle improvement, major genes, 2601
genetic change, selection, protein, 1593
genetic correlation, somatic cell count, genotype environment interaction, 2563
type traits, calving ease, 3586
genetic defects, linkage, dairy cattle traits, 2503
genetic engineering, tranagenic livestock, metabolic pathways, 2586
genetic evaluation, bull-dams, dam age, 1327
Ecuador, animal model, 3330
genetic merit, service sire, 1123
later herd, animal model, 3336
type traits, variance estimation, 191
updating, animal model, 1956
genetic gain, simulation, best linear unbiased predictor, 2657
genetic improvement, quantitative genetics, molecular genetics, 2647

genetic mapping, genetic markers, quantitative trait loci, 2525
restriction fragment length polymorphisms, 2628
genetic markers, major genes, induced mutation, 2619
quantitative trait loci, genetic mapping, 2525
restriction fragment length polymorphisms, genetic mapping, 2628
genetic merit, adipose tissue, hormone-sensitive lipase, 772
service sire, genetic evaluation, 1123
genetic model, rectovaginal constriction, Jersey cattle, 2516
genetic parameters, efficiency, metabolizable energy, 3297
protein, somatic cells, 494
genetic polymorphisms, milk production, milk composition, 3414
PAS-I, milk fat globule membrane, 3567
genetic variation, mutation, selection, 2593
genetics, somatotropin, production potential, 181
prolactin, 3112
genetics and breeding, nutrition, lactation, 1351
genotype by environment interaction, genetic correlation, somatic cell count, 2563
milk production, restricted maximum likelihood, 173
glucocorticoids, dystocia, adrenal cortex, 2801
gluconeogenesis, ketogenesis, hepatocytes, 683
gluconic acid, *Listeria monocytogenes*, cottage cheese, 1429
glucose, propionate, dairy cows, 1244
glucose recycling, tritiated glucose, kinetics of glucose metabolism, 1005
goat, meat and bone meal, lactation, 726
goat cheese, artisanal Majorero cheese, cheese characteristics, 1150
nutrient profiles, minerals, 3059 gonadotropin-releasing hormone, fertirelin acetate, buserelin, 633
human chorionic gonadotropin, pregnancy rate, 66
luteinizing hormone, pregnancy rate, 1500
pregnancy rate, repeat breeders, 1766
Gouda, cheese, ultrafiltration, 1420
Gram-negative bacteria, dry cow secretion, lactoferrin, 363
growth, conception, somatotropin, 73
enzyme profiles, bifidobacteria, 299
mammogenesis, plane of nutrition, 2333
growth hormone, somatotropin, lactation, 2157
growth inhibition, endotoxin, *Escherichia coli*, 1508
guinea pig, trace elements, milk, 2327

H

hard fats, production, dairy cattle, 2864
Harland-Ashworth test, milk-clotting enzymes, whey protein denaturation, 1694
health, production, bovine lymphocyte antigen alleles, 2538
reproduction, somatotropin, 3258
somatotropin, galactopoiesis, 2093
second lactation, 2423
health costs, selection, milk yield, 2547
heat coagulation, casein micelle structure, stability, 1965
heat damage, milk protein denaturation, pasteurization, 41
heat-induced gels, β-lactoglobulin, rheometry, 45
heat stability, analysis, taurine, 1700
milk protein, ethanol stability, 3613
heat stress, lactation, bovine somatotropin, 2896
heifers, histopathology, mastitis, 639
staphylococci, antibiotic susceptibility, 357
teat canal colonization, intramammary infection, 107
hemicellulose digestion, fungal extract, animal and vegetable fat, 1812
hepatocytes, gluconeogenesis, ketogenesis, 683
herd life, profitability, cattle sales, 667
heritability, dominance genetic variation, conformation, 2214
production, 2206
heterogeneous variance, intraherd standard deviation, 843
heterogeneity, mixed linear models, residual variances, 1612
variance components, selection, 503
heterogeneous variance, intraherd standard deviation, heritability, 843
milk yield, calving interval, 3321
variance components, 3312
heterosis, tropical dairy production, Zebu crosses, 1872
high density lipoprotein, lipoprotein lipase distribution, milk, 3393
high moisture feeds, rumen water efflux, dairy cows, 2916
high performance liquid chromatography, proteolysis, proteinase-negative cultures, 1465
skim milk powder, vitamin A, 1690
vitamin A, extraction, 3402
histamine, Swiss cheese, *Lactobacillus buchneri*, 3050
histopathology, mastitis, heifers, 639
Holstein crossbreds, Venezuela, net margin, 2952
Holstein steers, urea space, body composition, 3141
Holsteins, somatic cell count, conformation, 1337
homogenization, agglutination, bulk starter, 2259
hormones, prolactin, lactation, 3433
hormone-sensitive lipase, genetic merit, adipose tissue, 772
human chorionic gonadotropin, pregnancy rate, gonadotropin-releasing hormone, 66
hydraulic milking, teat end impact, milking rate, 1232
hydrogen peroxide, treated wheat straw, ruminal fermentation, 3544
hyperthermia, progesterone, interferon-α, 3439
hypocalcemia, mastitis, immunosuppression, 2103
parturient paresis, vitamin D, 406
hypomagnesemia, magnesium, calves, 470

I

immobilized *trans*-retinal, chromatography, β-lactoglobulin denaturation, 2067
immunoglobulin, covalent affinity chromatography, sulfhydryl oxidase, 308
immunoglobulin G absorption, colostrum, coagulation, 3287
immunoglobulins, cheese whey, isolation, 2075
immunosuppression, hypocalcemia, mastitis, 2103
mastitis, blastogenesis inhibition, 2112
in situ bag, rumen bag, digestion, 391
in situ degradation, roasted soybeans, soybean meal, 3222
in situ digestibility, alfalfa, drying agent, 2417
inbreeding, selection, progeny testing, 1113
induced mutation, genetic markers, major genes, 2619
industrial whey protein concentrates, denaturation kinetics, functional properties, 3602

infection, mastitis, cell defenses, 1751
innovation, bovine somatotropin, social impacts, 3084
instructions for authors, *Journal of Dairy Science*, 213
instrument, cheese yield, coagulation, 1
insulin-like growth factor-I, energy balance, ovarian activity, 929
intake, digesta kinetics, sheep and cattle, 2143
lactation, neutral detergent fiber, 2453
interferon-α, hyperthermia, progesterone, 3439
intestinal absorption, colostrum, calves, 480
intraherd standard deviation, heritability, heterogeneous variance, 843
intramammary challenge, mammary gland involution, coliform bacteria, 1217
intramammary device, mastitis, somatic cells, 2774
intramammary infection, heifers, teat canal colonization, 107
postmilking teat dip, chlorhexidine, 2230
involution, nonlactating period, *Staphylococcus* species, 995
proliferation, lactation, 3094
somatotropin, plasmin, 1494
iodine, calf performance, milk replacer, 804
lipids, calves, 2489
iodine variation, milk iodine, US milk, 3421
ionophores, lasalocid, feed additives, 153
ruminal bacteria, transport, 2996
iron fortification, Cheddar cheese, quality, 2252
isolation, immunoglobulins, cheese whey, 2075
kefir grains, polysaccharide-producing bacteria, 1684
Italian cheese, bulk starter medium, bacteriophage, 881

J

Jersey cattle, genetic model, rectovaginal constriction, 2516
Journal of Dairy Science, editor's report, 555
instructions for authors, 213

K

κ-casein, milk protein, monoclonal antibodies, 2741
kefalograviera, radiocesium, decontamination, 3042
kefir grains, polysaccharide-producing bacteria, isolation, 1684
keratin, mastitis, teat, 1745
teat canal, 98
ketogenesis, hepatocytes, gluconeogenesis, 683
kinetics of glucose metabolism, glucose recycling, tritinted glucose, 1005

L

labor, employees, Dairy Herd Improvement, 2574
lactating, chopped alfalfa, ammoniated wheat straw, 3172
lactating cow, amino acids, protein source, 3208
chilled drinking water, stress hormones, 1091
lactating dairy cattle, soybeans, niacin, 463
lactation, acid phosphatase, mammary gland, 964
Aspergillus oryzae fermentation extract, fungal additive, 2922
bovine somatotropin, heat stress, 2896
dairy cows, bovine somatotropin, 1062
dry matter intake, estimation, 1255
estrus, energy balance, 938
fat supplementation, calcium salts of fatty acids, 3200
genetics and breeding, nutrition, 1351
goat, meat and bone meal, 726
growth hormone, somatotropin, 2157
hormones, prolactin, 3433
involution, proliferation, 3094
neutral detergent fiber, intake, 2453
poultry waste feeding, protein substitute, 129
pregnancy, composition, 1586
somatotropin, protein intake, 2437
lactation curves, somatic cells, sample day yield, 484
lactation performance, somatotropin, sustained release, 763
lactational responses, magnesium solubility, yield, 413
lactic acid bacteria, acylglycerol acylhydrolase, 280
antimutagenicity, mutagenic pyrolyzates, 2702
lactobacilli, Cheddar cheese, 1395
lactobacilli, Cheddar cheese, lactic acid bacteria, 1395
cheese ripening, peptidase, 1454
enzymes, cheese, 2669
proteolysis, cheese ripening, 3068
Lactobacillus, cheese ripening, esterases, 2711
Lactobacillus acidophilus, dietary adjunct, cholesterol, 905
pH, storage stability, 1187
Lactobacillus buchneri, histamine, Swiss cheese, 3050
Lactobacillus bulgaricus, antimutagenic activity, *Streptococcus thermophilus*, 3379
proteolysis, *Streptococcus thermophilus*, 894
Lactobacillus casei, API ZYM method, enzymes, 264
peptidase, Cheddar cheese, 274
Lactobacillus helveticus, aminopeptidase, properties, 2278
Lactobacillus mutants, α-dicarbonyls, fermented dairy foods, 1450
Lactobacillus spp., bacteriophage, lysogeny, 2269
lactococci, plasmid-induced infection, review, 2239
Lactococcus, cloning, phage resistance, 2044
phage carrier, bacteriophage, 2685
Lactococcus lactis, cheese, proteinase, 3385
Lactococcus lactis ssp. *cremoris*, Viili, phosphopolysaccharide, 1472
lactoferrin, colostrum, breed, 125
Gram-negative bacteria, dry cow secretion, 363
lactose microcrystals, Dulce de Leche, sandiness, 612
large data files, pseudo-absorption strategy, animal model, 1945
lasalocid, ionophores, feed additives, 153
later herd, animal model, genetic evaluation, 3336
Latin America, net present value, semen, 2179
lead, dairy calves, selenium, 1107
lecithin, fat, ruminal digestion, 2934
length of ripening, temperature, Manchego cheese, 26
leukocytes, lymphocyte, β-carotene, 1017
lifetime profit, type, production, 198
light, vitamin A stability, milk, 1485
light intensity, time-temperature indicator system, reflectance, 63
light microscopy, flow cytometry, bull semen quality, 2364
limited suckling, postpartum intervals, water buffalo, 1564
liner slip, vacuum, milking machines, 1000
linkage, dairy cattle traits, genetic defects, 2503
lipase, lactic acid bacteria, acylgycerol acylhydrolase, 280
lipids, calves, iodine, 2489

lipids in milk, cholesterol, 223
lipolysis, cooling, milk fat, 617
raw milk, free fatty acids, 2054
lipoprotein lipase, activator-inhibitor balance, spontaneous lipolysis, 1178
proteose-peptone, milk, 1173
lipoprotein lipase distribution, milk, high density lipoprotein, 3393
lipotropic response, estrogen, fatty liver, 1537
Listeria, *Yersinia*, foodborne pathogens, 1656
Listeria monocytogenes, cottage cheese, gluconic acid, 1429
Parmesan cheese, 3351
sanitizing agents, contaminated surfaces, 3428
Streptococcus cremoris, starter culture medium, 3357
listeriosis, foodborne illness, dairy foods, 912
liver, β-hydroxybutyrate, 1,3-butanediol, 679
liver function, bovine somatotropin, nutritional status, 3276
logistic-normal regression, postpartum disorders, ecological analysis, 1515
low fat cheese, organic acids, ultrafiltration, 571
luteinizing hormone, pregnancy rate, gonadotropin-releasing hormone, 1500
lymphocyte, β-carotene, leukocytes, 1017
lysogeny, *Lactobacillus* spp., bacteriophage, 2269
lysosomes, mammary tissue, electron microscopy, 2318

M

magnesium, calves, hypomagnesemia, 470
magnesium solubility, yield, lactational responses, 413
major genes, gene transfer, dairy cattle improvement, 2601
induced mutation, genetic markers, 2619
mammary blood flow, feed intake, thermal stress, 325
mammary epithelium, culture, milk, 956
mammary gland, lactation, acid phosphatase, 964
salivary gland, epidermal growth factor, 2087
substrate proteins, protein kinase C, 1201
mammary gland involution, coliform bacteria, intramammary challenge, 1217
mammary secretions, dry period, *Corynebacterium bovis*, 351
mammary tissue, electron microscopy, lysosomes, 2318
mammogenesis, plane of nutrition, growth, 2333
management, dairy records, financial records, 1525
management practice, mastitis, economics, 3340
Manchego cheese, length of ripening, temperature, 26
mastitis, blastogenesis inhibition, immunosuppression, 2112
bovine, *Staphylococcus aureus*, 3457
ceftiofur, antibiotic therapy, 3449
cell defenses, infection, 1751
economics, management practice, 3340
epidemiology, somatic cell count, 3463
heifers, histopathology, 639
immunosuppression, hypocalcemia, 2103
milk losses, *Escherichia coli*, 333
model, economics, 2794
selenium, vitamin E, 381
somatic cells, intramammary device, 2774
Staphylococcus aureus, sampling, 2785
teat, keratin, 1745
teat canal, keratin, 98
teat dip, teat canal infections, 373 therapy, pharmacokinetics, 661
mastitis control, somatic cell count, dairy management, 1135
meat, flavor, dairy foods, 3637
meat and bone meal, lactation, goat, 726
meat iodine, dairy cows, milk iodine, 398
menadione, prothrombin time, vitamin K, 3291
metabolic pathways, genetic engineering, transgenic livestock, 2586
metabolizable energy, genetic parameters, efficiency, 3297
methyl ketone binding affinity, delipidated milk protein, external closed inlet device analyzer, 319
microbial-induced flavor, enzyme-induced flavor, flavor, 3664
microbial inoculant, corn silage, dairy heifers, 711
silage, chop length, 3165
microbial inoculation, cellulase enzyme treatment, barley-vetch silage, 1304
microbial populations, polysulfone ultrafiltration membrane systems, sanitizers, 2309
microbial protein synthesis, rumen fermentation, protein degradability, 3526
Micrococcus, *Pediococcus*, cheese ripening, 859
Micrococcus species, esterases, cheese ripening, 33
microfiltration, separation and sterilization, cheese and milk quality, 1411
milk, *Bifidobacterium*, production inhibition, 1478
Brazil, age-season, 819
guinea pig, trace elements, 2327
high density lipoprotein, lipoprotein lipase distribution, 3393
light, vitamin A stability, 1485
lipoprotein lipase, proteose-peptone, 1173
mammary epithelium, culture, 956
somatotropin, cow index, 784
milk adulteration, enzyme-linked immunosorbent assay, whey proteins, 1489
milk-clotting enzymes, whey protein denaturation, Harland-Ashworth test, 1694
milk-clotting enzymes, cheese yield, proteolysis, 2007, 2016
cheese, 2028
proteolysis, experimental design, 2022
milk coagulation rennet assay, whey, cheese, 1158
milk component yields, economic weights, dairy herd production model, 1631
milk components, cheese yield, milk protein polymorphisms, 241
milk composition, cheese yield, predictive formulas, 1365
fish meal, protein source, 445
genetic polymorphisms, milk production, 3414
milk fat, α-tocopherol, 2832
oxytocin, milk yield, 975
protected fats, whole cottonseed, 3512
rumen undegradable protein, fish meal, 3217
milk fat, α-tocopherol, milk composition, 2832
lipolysis, cooling, 617
milk fat composition, cows, rapeseed screenings, 3555
milk fat depression, neutral detergent fiber, particle size, 1823
silage, particle size, 1834
milk fat globule membrane, genetic polymorphism, PAS-I, 3567
milk fat globules, crescents of cytoplasm, diurnal variation, 2061

milk iodine, meat iodine, dairy cows, 398
US milk, iodine variation, 3421
milk losses, *Escherichia coli*, mastitis, 333
milk production, dairy cows, ammonium salts of volatile fatty acids, 2168
endocrine responses, fetal effects, 2766
milk composition, genetic polymorphisms, 3414
milk recording data, feed intake, 826
nicotinic acid, nicotinamide, 2880
reproductive status, energy balance, 2749
restricted maximum likelihood, genotype by environment interaction, 173
milk protein, ethanol stability, heat stability, 3613
monoclonal antibodies, κ-casein, 2741
stability, dairy foods, 3591
milk protein denaturation, pasteurization, heat damage, 41
milk protein polymorphisms, milk components, cheese yield, 241
milk quality, milking routine, stimulation, 3472
milk recording data, feed intake, milk production, 826
milk replacer, abomasal curd formation, calves, 1578
iodine, calf performance, 804
milk sampling, cooling systems, transport, 2299
milk yield, alfalfa, silage conditions, 1800
calving interval, heterogeneous variance, 3321
dietary fat, ruminally protected amino acids, 135
health costs, selection, 2547
milk composition, oxytocin, 975
production response, somatotropin, 3248
regulatory mechanisms, udder stimulation, 970
ruminal fermentation, feeding frequency, 1857
somatotropin, somatotropin-releasing factor, 2444
variance components, heterogeneous variance, 3312
yeast culture, digestibility, 1560
milking frequency, efficiency, selection, 1603
milking machines, liner slip, vacuum, 1000
milking rate, hydraulic milking, teat end impact, 1232
milking routine, stimulation, milk quality, 3472
minerals, availability, dairy, 1288
dietary cation-anion balance, acid-base status, 3485
goat cheese, nutrient profiles, 3059
minisatellites, parentage identification, DNA fingerprints, 3306
mixed linear models, multiple incidence matrices, programming strategy, 513
residual variances, heterogeneity, 1612
mobile bag technique, undegraded dietary protein, digestibility, 3494
model, economics, mastitis, 2794
model selection, best linear unbiased predictor, Akaike's information criterion, 3575
modeling, daily milk yield, time series analysis, 539
molecular genetics, genetic improvement, quantitative genetics, 2647
monoclonal antibodies, bovine, α-lactalbumin, 3077
κ-casein, milk protein, 2741
Mozzarella, free oil, oiling off, 867
quality at end use, functionality, 1644
multiple ovulation and embryo transfer, breeding schemes, stochastic model, 1938
multiple-component pricing, product-yield pricing, plant considerations, 1724
yield, 1712
multiple incidence matrices, mixed linear models, programming strategy, 513
multitrait analysis, common principal components, canonical transformation, 2494
mutagenic pyrolyzates, lactic acid bacteria, antimutagenicity, 2702
mutation, selection, genetic variation, 2593

N

near infrared, spectroscopy, fat adulteration, 3408
net margin, dual purpose cattle, tropical dairying, 2190
Holstein crossbreds, Venezuela, 2952
net present value, semen, Latin America, 2179
neutral detergent fiber, digestibility, calcium salts of fatty acids, 1031
intake, lactation, 2453
particle size, milk fat depression, 1823
neutralizing agents, sodium bicarbonate, corn silage, 1571
neutrophil leukocytes, respiratory burst, *Escherichia coli* mastitis, 985
neutrophils, phagocytosis, antibiotics, 1734
vitamin E, selenium, 2372
newspaper bedding, bacterial counts, teat swabs, 1756
niacin, lactating dairy cattle, soybeans, 463
nicotinamide, milk production, nicotinic acid, 2880
nicotinic acid, nicotinamide, milk production, 2880
nitrogen, direct-cut forage, wilted forage, 1081
nitrogen metabolism, toxin biotransformation, fiber digestion, 2971
nitrogen utilization, energy metabolism, efficiency, 1023
nonlactating period, *Staphylococcus* species, involution, 995 nonreturn rates, semen placement, artificial insemination, 1779
nonstarter bacteria, calcium lactate, Cheddar cheese, 1145
nonstructural carbohydrates, degradable carbohydrates, degradable crude protein, 1039
dried whey, soybeans, 425
nordihydroguaiaretic acid, prostaglandin $F_{2\alpha}$, corpus luteum, 2350
nucleus breeding schemes, economic evaluation, artificial insemination, 1920
realized selection differentials, superovulation, 549
nutrient digestibility, ruminal fermentation, *Aspergillus oryzae*, 2413
nutrient profiles, minerals, goat cheese, 3059
nutrition, lactation, genetics and breeding, 1351
whole cottonseed, replacer pellet, 2460
nutritional status, liver function, bovine somatotropin, 3276
pregnancy, somatotropin, 3266

O

oiling off, Mozzarella, free oil, 867
1,3-butanediol, liver, β-hydroxybutyrate, 697
orchardgrass, alfalfa, alkali, 2404
organic acids, ultrafiltration, low fat cheese, 571
osteocalcin, calcium, postpartum cow, 3481
ovarian activity, insulin-like growth factor-I, energy balance, 929
ovine, casein, affinity chromatography, 1707
oxalate solubility, calcium solubility, forage, 474
oxytocin, milk yield, milk composition, 975

P

paired mating, sire selection, quadratic indexes, 1625
pairwise feeding trials, cafeteria-type experiments, palatability experiments, 1239
palatability experiments, pairwise feeding trials, cafeteria-type experiments, 1239
parentage identification, DNA fingerprints, minisatellites, 3306
Parmesan cheese, *Listeria monocytogenes*, 335
particle size, milk fat depression, neutral detergent fiber, 1823
  silage, 1834
parturient paresis, vitamin D, hypocalcemia, 406
PAS-I, milk fat globule membrane, genetic polymorphism, 3567
passage, voluntary intake, ruminal fill, 1280
pasteurization, fat and nitrogen recoveries, Cheddar cheese yield, 561
  heat damage, milk protein denaturation, 41
Pediococcus, cheese ripening, *Micrococcus*, 859
penicillin plus novobiocin, antibiotics, *Staphylococcus aureus*, 115
peptidase, lactobacilli, cheese ripening, 1454
  Lactobacillus casei sp., Cheddar cheese, 274
periparturient cows, selenium, vitamin E, 3187
pH, stability, *Lactobacillus acidophilus*, 1187
phage carrier, bacteriophage, *Lactococcus*, 2685
phage resistance, *Lactococcus*, cloning, 2044
phagocytosis, antibiotics, neutrophils, 1734
pharmacokinetics, mastitis, therapy, 661
phenolics, prostaglandins, soybean milk replacers, 1312
phospholipids, cows, fatty acids, 1208
phosphopolysaccharide, *Lactococcus lactis* ssp. *cremoris*, Viili, 1472
phosphorus, bone properties, deficiency, 1100
  dairy calves, aluminum, 808
physical form, frequency of feeding, ruminal fermentation, 3538
physicochemical properties, whey protein concentrates, whey protein concentrates, 2731
plane of nutrition, growth, mammogenesis, 2333
plant considerations, multiple-component pricing, product-yield pricing, 1724
plasma lipids, rhythms, cows, 948
plasmid-induced infection, review, lactococci, 2239
plasmin, involution, somatotropin, 1494
polychlorinated biphenyls, residues, dairy cows, 2136
polysaccharide-producing bacteria, isolation, kefir grains, 1684
polysulfone ultrafiltration membrane systems, sanitizers, microbial populations, 2309
population dynamics, epidemiology, somatic cell counts, 1343
postmilking teat dip, bovine mastitis, chlorous acid-chlorine dioxide, 2121
  chlorhexidine, intramammary infection, 2230
postpartum cow, osteocalcin, calcium, 3481
postpartum dairy cows, somatotropin, dose response, 2907
postpartum disorders, ecological analysis, logistic-normal regression, 1515
postpartum intervals, water buffalo, limited suckling, 1564
poultry waste feeding, protein substitute, lactation, 129
predictive formulas, milk composition, cheese yield, 1365
pregnancy, composition, lactation, 1586
  somatotropin, nutritional status, 3266
pregnancy diagnosis, progesterone, economics, 2826
pregnancy rate, gonadotropin-releasing hormone, human chorionic gonadotropin, 66
  luteinizing hormone, 1500
  repeat breeders, gonadotropin-releasing hormone, 1766
product-yield pricing, plant considerations, multiple-component pricing, 1724
  yield, multiple-component pricing, 1712
production, body tissue balance, body condition, 3502
  bovine lymphocyte antigen alleles, health, 2538
  dairy cattle, hard fats, 2864
  heritability, dominance genetic variation, 2206
  lifetime profit, type, 198
production inhibition, milk, *Bifidobacterium*, 1478
production potential, genetics, somatotropin, 181
production response, somatotropin, milk yield, 3248
products, publication trends, food research, 1193
profitability, cattle sales, herd life, 667
progeny testing, inbreeding, selection, 1113
progesterone, economics, pregnancy diagnosis, 2826
  estrous cycles, synchronization, 2807
  interferon-α, hyperthermia, 3439
  reproductive performance, dietary fat, 2855
  synchronization, reproductive performance, 2817
programming strategy, mixed linear models, multiple incidence matrices, 513
prolactin, genetics, somatotropin, 3112
  lactation, hormones, 3433
proliferation, lactation, involution, 3094
properties, *Lactobacillus helveticus*, aminopeptidase, 2278
propionate, dairy cows, glucose, 1244
prostaglandin, control, endotoxin, 627
  soybean milk replacers, phenolics, 1312
prostaglandin $F_{2\alpha}$, corpus luteum, nordihydroguaiaretic acid, 2350
protected fats, whole cottonseed, milk composition, 3512
protein, acid-base status, calcium, 3178
  energy, reproduction, 2342
  genetic change, selection, 1593
  rumen degradability, starch, 2386
  somatic cells, genetic parameters, 494
  starch, rumen degradation, 142
protein degradability, bacterial protein, diaminopimelic acid, 694
  electrophoresis, degradation rate, 2379
  microbial protein synthesis, rumen fermentation, 3526
protein fractions, protein solubility, feedstuffs, 1544
protein intake, lactation, somatotropin, 2437
protein kinase C, mammary gland, substrate proteins, 1201
protein solubility, feedstuffs, protein fractions, 1544
protein-solute interactions, cryopreservation, protein stabilization, 3627
protein source, lactating cow, amino acids, 3208
  milk composition, fish meal, 445
protein stabilization, protein-solute interactions, cryopreservation, 3627
protein structure, casein, small angle x-ray scattering, 3592
protein substitute, lactation, poultry waste feeding, 129
proteinase, *Lactococcus lactis*, cheese, 3385
proteinase-negative cultures, high performance liquid chromatography, proteolysis, 1465
proteinases of *Brevibacterium linens*, Cheddar cheese, accelerated ripening, 579
proteolysis, Cheddar cheese, starter proteinases, 874
  cheese ripening, lactobacilli, 3068

experimental design, milk-clotting enzymes, 2022
milk-clotting enzymes, cheese yield, 2016
proteinase-negative cultures, high performance liquid chromatography, 1465
Streptococcus thermophilus, Lactobacillus bulgaricus, 894
proteolysis in whey, milk-clotting enzymes, cheese yield, 2007
protease-peptone, milk, lipoprotein lipase, 1173
prothrombin time, vitamin K, menadione, 3291
protocols, efficacy, teat dip, 2580
pseudo-absorption strategy, animal model, large data files, 1945
publication trends, food research, products, 3193
pyrolysis, forage, pyrolysis gas chromatography, 2394
pyrolysis gas chromatography, pyrolysis, forage, 2394

Q

quadratic indexes, paired mating, sire selection, 1625
quality, iron fortification, Cheddar cheese, 2252
quality at end use, functionality, Mozzarella, 1644
quantitative genetics, molecular genetics, genetic improvement, 2647
quantitative trait loci, genetic mapping, genetic markers, 2525

R

radiocesium, decontamination, kefalograviera, 3042
radiolabeled active site, sulfhydryl oxidase, blocked amino terminus, 2287
rapeseed screenings, milk fat composition, cows, 3555
rate of passage, fiber digestion, chewing, 749
raw milk, free fatty acids, lipolysis, 2054
reactivation, alkaline phosphatase, butter, 584
realized selection differentials, superovulation, nucleus breeding schemes, 549
recombinant bovine somatotropin, corn, barley, 1269
rectovaginal constriction, Jersey cattle, genetic model, 2516
reflectance, light intensity, time-temperature indicator system, 63
regulatory mechanisms, udder stimulation, milk yield, 970
relationship matrix, animal model, restricted maximum likelihood, 3583
repeat breeders, gonadotropin-releasing hormone, pregnancy rate, 1766
repeatability, calving ease, Canadian Holsteins, 205
replacer pellet, nutrition, whole cottonseed, 2460
reproduction, calving age, body weight, 835
protein, energy, 2342
somatotropin, health, 3258
reproduction indices, American Association of Bovine Practitioners, reproductive performance, 78
reproductive disease, culling, body condition score, 3132
reproductive performance, dietary fat, progesterone, 2855
progesterone, synchronization, 2817
reproduction indices, American Association of Bovine Practitioners, 78
reproductive status, energy balance, milk production, 2749
residual variances, heterogeneity, mixed linear models, 1612
residues, dairy cows, polychlorinated biphenyls, 2136
resistant proteins, expeller soybean meal, alfalfa silage, 453
respiratory burst, *Escherichia coli* mastitis, neutrophil leukocytes, 985
restricted maximum likelihood, derivative free, covariance components, 2221
genotype by environment interaction, milk production, 173
relationship matrix, animal model, 3583
restriction fragment length polymorphisms, genetic mapping, genetic markers, 2628
retained placenta, edema, dystocia, 2555
retinol, zinc, α-tocopherol, 3195
review, lactococci, plasmid-induced infection, 2239
rheology, Dulce de Leche, flow properties, 601
viscosity, cheese, 1671
rheometry, heat-induced gels, β-lactoglobulin, 45
rhythms, cows, plasma lipids, 948
risk, semen utility, sire selection, 532
roasted soybeans, fiber digestibility, soybeans, 3231
soybean meal, in situ degradation, 3222
rumen, digestibility, *Aspergillus oryzae*, 703
fatty acids, calcium soap, 1784
rumen bacteria, bacterial nitrogen flow, diaminopimelic acid, 2929
rumen bag, digestion, in situ bag, 391
rumen cannulation, chewing activity, forage particle size, 3158
rumen degradability, starch, protein, 2386
rumen degradation, protein, starch, 142
rumen fermentation, protein degradability, microbial protein synthesis, 3526
rumen fungi, fiber, degradation, 3023
rumen undegradable protein, fish meal, milk composition, 3217
rumen water efflux, dairy cow, high moisture feeds, 2916
ruminal acidosis, seasonality, traumatic reticuloperitonitis, 2355
ruminal bacteria, centrifugation speed, freezing, 149
energy level, feeding frequency, 2480
transport, ionophores, 2996
xylan, bacterial genetics, 3013
ruminal digestion, lecithin, fat, 2934
ruminal fermentation, *Aspergillus oryzae*, nutrient digestibility, 2413
feeding frequency, milk yield, 1857
hydrogen peroxide, treated wheat straw, 3544
physical form, frequency of feeding, 3538
ruminal fill, passage, voluntary intake, 1280
ruminally inert fat, dairy cattle, somatotropin, 1263
ruminally protected amino acids, milk yield, dietary fat, 135
rump-mounted devices, androgenized cattle, estrus detection, 2965
ryegrass, stage of maturity, wheat, 1296

S

salivary gland, epidermal growth factor, mammary gland, 2087
sample day yield, lactation curves, somatic cells, 484
sampling, mastitis, *Staphylococcus aureus*, 2785
sandiness, lactose microcrystals, Dulce de Leche, 612
sensory evaluation, Dulce de Leche, 604

sanitizers, microbial populations, polysulfone ultrafiltration membrane systems, 2309
sanitizing agents, contaminated surfaces, *Listeria monocytogenes*, 3428
seasonality, traumatic reticuloperitonitis, ruminal acidosis, 2355
second lactation, health, somatotropin, 2423
selection, feed utilization, efficiency, 1533
genetic variation, mutation, 2593
milk yield, health costs, 2547
milking frequency, efficiency, 1603
progeny testing, inbreeding, 1113
protein, genetic change, 1593
variance components, heterogeneity, 503
selenium, lead, dairy calves, 1107
neutrophils, vitamin E, 2372
periparturient cows, 3187
vitamin E, mastitis, 381
semen, deoxyribonucleic acid, cell number, 3118
Latin America, net present value, 2179
semen placement, artificial insemination, nonreturn rates, 1779
semen utility, sire selection, risk, 532
sensory evaluation, Dulce de Leche, sandiness, 604
separation and sterilization, cheese and milk quality, microfiltration, 1411
service sire, genetic evaluation, genetic merit, 1123
sheep and cattle, intake, digesta kinetics, 2143
silage, cellulase, amylase, 1788
chop length, microbial inoculant, 3165
Clostridium tyrobutyricum, enumeration, 719
particle size, milk fat depression 1834
silage conditions, milk yield, alfalfa, 1800
simulation, best linear unbiased predictor, genetic gain, 2657
sire selection, quadratic indexes, paired mating, 1625
risk, semen utility, 532
skim milk powder, vitamin A, high performance liquid chromatography, 1690
small angle x-ray scattering, protein structure, casein, 3592
social impacts, innovation, bovine somatotropin, 3084
sodium, aldosterone, cattle, 1762
sodium bicarbonate, corn silage, neutralizing agents, 1571
somatic cell count, conformation, Holsteins, 1337
dairy management, mastitis control, 1135
epidemiology, 3463
genotype environment interaction, genetic correlation, 2563
population dynamics, epidemiology, 1343
somatic cells, genetic parameters, protein, 494
sample day yield, lactation curves, 484
somatotropin, cow, antibody formation, 2888
cow index, milk, 784
dairy cows, feeding frequency, 1552
dietary fat, undegradable intake protein, 3237
dose response, postpartum dairy cows, 2907
galactopoiesis, health, 2093
growth, conception, 73
health, reproduction, 3258
lactation, growth hormone, 2157
milk yield, production response, 3248
nutritional status, pregnancy, 3266
plasmin, involution, 1494
production potential, genetics, 181
prolactin, genetics, 3112
protein intake, lactation, 2437
ruminally inert fat, dairy cattle, 1263
second lactation, health, 2423
somatotropin-releasing factor, milk yield, 2444
sustained release, lactation performance, 763
somatotropin-releasing factor, milk yield, somatotropin, 2444
soybean meal, in situ degradation, roasted soybeans, 3222
soybean milk replacers, phenolics, prostaglandins, 1312
soybeans, niacin, lactating dairy cattle, 463
nonstructural carbohydrates, dried whey, 425
roasted soybeans, fiber digestibility, 3231
sparse matrices, animal model, variance components, 163
spectroscopy, fat adulteration, near infrared, 3408
spermatozoa, chromosomes, gender, 2129
fertility, filtration, 91
spoilage organisms, cottage cheese, yogurt, 887
spontaneous lipolysis, lipoprotein lipase, activator-inhibitor balance, 1178
stability, dairy foods, milk protein, 3591
heat coagulation, casein micelle structure, 1965
Lactobacillus acidophilus, pH, 1187
stage of maturity, wheat, ryegrass, 1296
staphylococci, antibiotic susceptibility, heifers, 357
Staphylococcus aureus, penicillin plus novobiocin, antibiotics, 115
mastitis, bovine, 3457
sampling, mastitis, 2785
Staphylococcus species, involution, nonlactating period, 995
starch, protein, rumen degradability, 2386
rumen degradation, protein, 142
starter culture medium, *Listeria monocytogenes*, *Streptococcus cremoris*, 3357
starter cultures, bulk starter substrates, ultrafiltered milk retentates, 1166
starter proteinases, proteolysis, Cheddar cheese, 874
steers, energy level, feeding frequency, 2470
stimulation, milk quality, milking routine, 3472
stochastic model, multiple ovulation and embryo transfer, breeding schemes, 1938
streptococci, bovine mammary glands, antibiotic, 1225
Streptococcus cremoris, starter culture medium, *Listeria monocytogenes*, 3357
Streptococcus thermophilus, enzymatic assay, yogurt, 2697
Lactobacillus bulgaricus, antimutagenic activity, 3379
proteolysis, 894
stress hormones, lactating cows, chilled drinking water, 1091
substrate proteins, protein kinase C, mammary gland, 1201
sulfhydryl oxidase, blocked amino terminus, radiolabeled active site, 2287
covalent affinity chromatography, immunoglobulin, 308
superovulation, nucleus breeding schemes, realized selection differentials, 549
sustained release, lactation performance, somatotropin, 763
sweet milk replacer, dairy calves, acidified milk replacer, 3563
sweeteners, yogurt, 54
Swiss cheese, *Lactobacillus buchneri*, histamine, 3050
synchronization, progesterone, estrous cycles, 2807
reproductive performance, progesterone, 2817

T

taurine, heat stability, analysis, 1700
teat, keratin, mastitis, 1745
teat canal, keratin, mastitis, 98
teat canal colonization, intramammary infection, heifers, 107
teat canal infections, mastitis, teat dip, 373
teat dip, protocols, efficacy, 2580
  teat canal infections, mastitis, 373
teat end impact, milking rate, hydraulic milking, 1232
teat swabs, newspaper bedding, bacterial counts, 1756
technology, biotechnology, food safety, 1665
temperature, Manchego cheese, length of ripening, 26
testosterone, estrus detection, androgenization, 1773
therapy, pharmacokinetics, mastitis, 661
thermal denaturation, disulfide bond formation, casein micelles, 900
thermal denaturation of whey proteins, casein, differential scanning calorimetry, 590
thermal inactivation, differential analysis, calf rennet, 2000
thermal properties, whey protein, composition, 1439
thermal stress, feed intake, mammary blood flow, 325
time series analysis, modeling, daily milk yield, 539
time-temperature indicator system, reflectance, light intensity, 63
toxin biotransformation, fiber digestion, nitrogen metabolism, 2971
trace elements, milk, guinea pig, 2327
transgenic livestock, metabolic pathways, genetic engineering, 2586
transglutaminase, whey protein, crosslinking, 256
transport, ionophores, ruminal bacteria, 2996
  milk sampling, cooling systems, 2299
traumatic reticuloperitonitis, ruminal acidosis, seasonality, 2355
treated wheat straw, ruminal fermentation, hydrogen peroxide, 3544
tritiated glucose, kinetics of glucose metabolism, glucose recycling, 1005
tropical dairy production, Zebu crosses, heterosis, 1872
tropical dairying, net margin, dual purpose cattle, 2190
type, production, lifetime profit, 198
type traits, calving ease, genetic correlation, 3586
  variance estimation, genetic evaluation, 191

U

udder stimulation, milk yield, regulatory mechanisms, 970
ultrafiltered milk retentates, starter cultures, bulk starter substrates, 1166
ultrafiltration, Gouda, cheese, 1420
  lowfat cheese, organic acids, 571
ultrafiltration lowfat Cheddar cheese, diafiltration, acidification, 314
undegradable intake protein, somatotropin, dietary fat, 3237
undegraded dietary protein, digestibility, mobile bag technique, 3494
updating, animal model, genetic evaluation, 1956
urea space, body composition, Holstein steers, 3141
US milk, iodine variation, milk iodine, 3421

V

vacuum, milking machines, liner slip, 1000
variance components, heterogeneity, selection, 503
  heterogeneous variance, milk yield, 3312
  sparse matrices, animal model, 163
variance estimation, genetic evaluation, type traits, 191
Venezuela, dual purpose cattle, alternative diets, 792
  net margin, Holstein crossbreds, 2952
Villi, phosphopolysaccharide, *Lactococcus lactis* ssp. *cremoris*, 1472
viscosity, cheese, rheology, 1671
vitamin A, extraction, high performance liquid chromatography, 3402
  high performance liquid chromatography, skim milk powder, 1690
vitamin A stability, milk, light, 1485
vitamin D, hypocalcemia, parturient paresis, 406
vitamin E, mastitis, selenium, 381
  periparturient cows, selenium, 3187
  selenium, neutrophils, 2372
vitamin K, menadione, prothrombin time, 3291
volatile components, blue cheese, gas chromatography-mass spectrometry, 1676
volatile free fatty acids, analysis, branched-chain fatty acids, 1988
voluntary intake, ruminal fill, passage, 1280

W

water buffalo, limited suckling, postpartum intervals, 1564
weaning systems, coccidiosis, calf health and growth, 1851
wheat, ryegrass, stage of maturity, 1296
whey, cheese, milk coagulation rennet assay, 1158
whey protein, composition, thermal properties, 1439
  crosslinking, transglutaminase, 256
  milk adulteration, enzyme-linked immunosorbent assay, 1489
whey protein concentrates, functionality, physicochemical properties, 2731
whey protein denaturation, Harland-Ashworth test, milk-clotting enzymes, 1694
whole cottonseed, milk composition, protected fats, 3512
  replacer pellet, nutrition, 2460
wilted forage, nitrogen, direct-cut forage, 1081

X

xylan, bacterial genetics, ruminal bacteria, 3013

Y

yeast culture, digestibility, milk yield, 1560
Yersinia, foodborne pathogens, *Listeria*, 1656
yield, cheese, milk-clotting enzymes, 2028
  enzymes, cheese, 8
  lactational responses, magnesium solubility, 413
  multiple-component pricing, product-yield pricing, 1712
yogurt, enzyme-linked immunosorbent assay for molds, cheese, 3366
  spoilage organisms, cottage cheese, 887
  Streptococcus thermophilus, enzymatic assay, 2697
  sweeteners, 54

Z

Zebu crosses, Brazil, breeding strategies, 1887
  heterosis, tropical dairy production, 1872
zinc, α-tocopherol, retinol, 3195